FACTORS AFFECTING MICROSOFT DYNAMICS ERP

IMPLEMENTATION PROJECT SUCCESS

by

JT Gorrell

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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Liberty University, School of Business

August 2020

Abstract

This study examines the effect the project schedule has on extensions to project duration and budget overruns of Microsoft Dynamics ERP implementation projects. This larger problem was explored through an in depth study of the completeness of the detailed project schedules, the alignment of the detailed project schedules with the activities and deliverables of the ERP implementation methodology, the incorporation of the detailed project schedules into the project manager's daily project governance activities, and its effect on project adherence to budget and timeline and the organizational behavior of project resources. This study followed the constructivism paradigm and utilized the case study design of the qualitative method to guide the gathering and analysis of the data, as well as the interpretation of the research results. Three themes were developed based on these case studies: behavior of the team, project schedule, and methodology. Recommendations for action and further study were suggested, along with the biblical foundations supporting the profession of project management and ERP implementation projects.

Keywords: ERP implementation, Microsoft Dynamics ERP, success factors, project schedule, organizational behavior, project management.

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Dr. Dwayne Melton

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Dr. Arnetra Arrington

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Dr. Edward Moore

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Dr. David Brat

Dedication

I dedicate this to my amazing wife, Zoraima. Thank you for supporting and encouraging me to continue to pursue my dreams. Tu eres mi cielo, mi alma, mi todo, y mi corazón. ¡Yo te amo!

Acknowledgements

First, I would like to thank God for giving me the courage, stamina, persistence, and patience to see this through. "With God, all things are possible" (Matthew 19:26, NKJV). I want to thank my wife, Zoraima, and our family for supporting me in this journey. I appreciate your encouragement through every step, and unwavering confidence in my ability to make it through to the end. Another huge thanks to the Liberty University faculty and administration. Without your support, and especially Dr. Melton, Dr. Arrington, and Dr. Moore, I am sure this journey would have never come to fruition. Finally, to all my friends and co-workers who encouraged me along the way. I appreciate every one of you more than words can say.

Table of Contents

List of Tables

List of Figures

Section 1: Foundation of the Study

Research finds that 51 to 58 percent of Enterprise Resource Planning (ERP) projects are unsuccessful due to poor project management principles such as poor planning, poor budgeting, and poor scope management (Guay, Pang, Hestermann, & Montgomery, 2015). The purpose of this qualitative study was to add to the body of knowledge by examining the project schedule of Microsoft Dynamics ERP implementation projects, and the effects it has on extensions to project duration and budget overruns. This larger problem was explored through an in depth study of the completeness of the detailed project schedules, the alignment of the detailed project schedules with the activities and deliverables of the ERP implementation methodology, the incorporation of the detailed project schedules into the project manager's daily project governance activities, and its effect on project adherence to budget and timeline and the organizational behavior of project resources. Additional variables, with respect to organizational structure and group dynamics, affect the project resource's ability to deliver their assigned work packages within the baseline budget and timeline (Wang, Chou, & Jiang, 2005). The results of this study can be used by Microsoft ERP implementation partners to improve their project methodologies, as well as their governance and control frameworks. Per Microsoft's website (dynamics.microsoft.com), their partner ecosystem "offers expert guidance and support in buying, implementing, and optimizing" Dynamics ERP systems, and will be referred to through the rest of this study as implementation partners. Additionally, the results of this study can also be used by Microsoft ERP implementation clients to better staff implementation projects, as well as aid in their project control mechanisms, especially in multi-vendor environments.

Background of the Problem

The unification of all the company's processes, organizational structures, marketing and business strategies, and the operational platforms is crucial to achieve success, and for this reason, the most influential element of a company is its ERP system (Pohludka, Stverkova, & Ślusarczyk, 2018). The complexity of the ERP system creates the greatest problem in managing their implementation projects, as ERP systems involve not only software and hardware, but business processes, organizational structures, and organizational culture as well (Rosa, Packard, Krupanand, Bilbro, & Hodal, 2013). Because of the interdependence among these components, coordination among those responsible for the different components is one of the most critical project management responsibilities (Chang, Wang, Jiang, & Klein, 2013). It is the project's baseline, which is derived from the work breakdown structure, that provides the elements for measuring and controlling project performance (Larson & Gray, 2018). However, without a formal underlying theory that defines the relevant project activities, and the relationship between them, there is no guarantee that any specific action by a project manager will affect a particular project issue or outcome (Warburton & Cioffi, 2016). In addition, Gartner noted Microsoft and their partner's inability to successfully implement their Dynamics solution as their biggest issue in moving into the Leader Quadrant (Guay et al., 2015). Finally, the preponderance of ERP implementation studies to date have focused on Systems Applications and Programs (SAP) and Oracle implementations, and none have researched the correlation between Microsoft's ERP implementation failures and their detailed project schedules.

Problem Statement

The general problem to be addressed is the high failure rate of ERP implementation projects resulting in extensions to project duration and budget overruns. According to a study by

Panorama Consulting Solutions (2018), 58 percent of ERP projects are reported as unsuccessful. Garg and Chauhan (2015) noted, as 51 percent of ERP implementation projects are unsuccessful, it is critical for executives to fully understand the factors that affect the failure of their projects. Ali and Miller (2017) noted that the most common cause of ERP implementation failures stem from poor planning, poor budgeting, and poor scope management. Garg and Garg (2014) confirmed a positive correlation between a project's project management principles and ERP implementation project's failure. The specific problem to be addressed is the high failure rate of Microsoft Dynamics ERP implementation projects, resulting in extensions to project duration and budget overruns.

Purpose Statement

The purpose of this qualitative study was to add to the body of knowledge by examining the project schedules of Microsoft Dynamics ERP implementation projects, and the effects it has on extensions to project duration and budget overruns. This larger problem was explored through an in depth study of the completeness of the detailed project schedules, the alignment of the detailed project schedules with the activities and deliverables of the ERP implementation methodology, the incorporation of the detailed project schedules into the project manager's daily project governance activities, and its effect on project adherence to budget and timeline and the organizational behavior of project resources.

Nature of the Study

Discussion of method. This project employed the qualitative method, using the case study design. Quantitative methods generally document cause and effect (Creswell, 2016). The relationship between variables are measured so that numbered data can be analyzed using statistical procedures (Creswell, 2016). In contrast, qualitative studies rely less on empirical

results, but using interpretations of the data, tries to understand the impact their life experiences and society have on the individual or group being studied (Creswell, 2016). Qualitative methods hold as their core assumption that reality is socially constructed and regard the social world as being created through one's social interactions (Romm, 2013), and therefore, is the most appropriate method for this study. While the quantitative method would also be appropriate to study the correlation between the project's work breakdown structure quality and the project's adherence to the baseline budget and timeline, however, the exclusion of personal interactions and experiences of project managers during the execution of the project risks excluding the additional impact on the project's baseline budget and timeline as a result of the organizational behaviors of the project's resources.

Discussion of design. The case study explores a real-life, contemporary bounded system (a case) or multiple bound systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information, and reports a case description and case themes (Alpi & Evans, 2019). Grounded theory design is where the researcher derives a general, abstract theory of a process grounded in the views of the participants (Creswell, 2016). While both, case study and grounded theory designs include multiple forms of data collection, the sustained period of time for data collection makes the case study design the most appropriate. Narrative research, in which the researcher retells a collaboration of the individual's stories of their lives, and their experiences (Creswell, 2016), would not be appropriate, as the researcher's bias, due to the incorporation of the researcher's experiences, would not necessarily identify correlation. The phenomenological design, in which individuals share their experiences of a shared event (Creswell, 2016), such as a project, would also not be appropriate, as the findings are the personal observations of the individual's experiences, and as such, would determine the root

cause for each specific project's performance, without respect to the study's variables.

Therefore, the inclusion of social interactions in the qualitative research method, and the

sustained period of time for data collection in the case study design, make these the most

appropriate approach to study the project schedule's influence on adherence to the baseline

budget, adherence to the baseline timeline, and the organizational behavior of the project's

resources.

Research Questions

- RQ1. What are the factors leading to the success of Microsoft Dynamics ERP projects?

- RQ1a. How much of an influence does the quality of a project's schedule have on the

  project resource's adherence to its baseline budget?

- RQ1b. How much of an influence does the quality of a project's schedule have on the

  project resource's adherence to its baseline timeline?

- RQ1c. How much of an influence does the quality of a project's schedule have on the

  project resource's organizational behavior?

Conceptual Framework

This study reviewed the relationship between the quality of a project's schedule, and its

impact on Microsoft Dynamics ERP implementation project success. First, an understanding of

the complexities of ERP implementation projects is presented. Next is a discussion of how the

project schedule builds the foundation for project managers to deliver the project. This is

followed by a discussion on how project managers utilize their interpersonal skills to influence

teams to a common goal. It is important to note that there are multiple factors that detract project

resources from performing effectively, both individually and as a team. As such, discussions on

organizational behavior, specifically as it relates to temporary workers, follows. Finally, there is

a discussion on group theory, and specifically the phases of small group development, in order to elaborate the impact group dynamics has on project resource behavior and their ability to deliver their assigned work packages on time and on budget.

Discussion of Enterprise Resource Planning (ERP) implementations. An ERP is an information system, which integrates enterprise internal function working processes, standardizes internal data processing procedures, and combines the operational data generated by different functions (Alimohamadian & Abdi, 2014). ERP systems achieve this by offering best practice templates for core business processes (Akkermans, Bogerd, Yücesan, & van Wassenhove, 2003). In the past ten years, the importance of ERP systems to an organization has dramatically increased as they have begun to realize the impact of an ERP is on their future (Daneva, Bieman, & Wieringa, 2008). Following a methodology focused on people, processes, and technology, successful ERP implementations utilize the technology's best practice processes to transform the organization into an efficient and effective source for their customers (Gargeya & Brady, 2005).

Discussion of ERP project Work Breakdown Structure (WBS) and project schedules. The lowest level of the WBS, known as the work package, provides the basis for managing the project's activities, resources, costs, duration, and deliverables (Elsye, Latief, & Sagita, 2018). Project managers must ensure the alignment of the work packages represent a realistic approach and timeline to deliver the project (Elsye et al., 2018). Pich, Loch and Meyer (2002) investigated the method of schedule creation and found that it generally excludes real-world influence factors, and as a result, task is frequently missed, and projects run over budget and time. Gutierrez and Kouvelis (1991) also reviewed the method of developing project schedules and found that it is imperative project managers produce "reasonably tight" timelines,

in order to produce a sustainable project work environment. However, Smith (2010) reviewed

the impact strict timelines had on projects, finding the increased stress negatively impacted

performance and cost. Finally, Porter and Smith (1998) indicated that having more experienced

managers lead to greater buy-in to the project schedules and detailed project schedules decrease

problem severity.

          Discussion of project leadership and control. Project managers must utilize

interpersonal skills, in order to guide project resources to achieve their goals (Larson & Gray,

2018). While successful coordination among ERP consultants may not require all control modes

be present for success, studies observed that employing different control modes ensured

coordination and communication among ERP consultants (Chang et al., 2013). Westwood

(2001) explained influencing without authority in some detail and offered suggestions on how

leaders should identify their information networks, as well as how to build their common goals.

Wang et al. (2005) note, one of the unique functions of leadership is not only to create cultures in

new groups, but also to manage cultural issues in mature organizations. They note,

transformational leadership occurs when leaders broaden and elevate the interests of their

employees, when they generate awareness and acceptance of the purposes and mission of the

group, and when they stir their employees to look beyond their own self-interest for the good of

the group (Wang et al., 2005). Additionally, transactional leadership occurs when leaders

exchange promises of rewards and benefits to subordinates in return for the subordinates'

fulfillment of agreements with the leader (Wang et al., 2005). They found transactional

contingent reward and transformational leadership to be successful in eliciting performance from

resources (Wang et al., 2005).

Discussion of organizational behavior. The human agent in project management

depends on the behavior of the human being, who will always, out of natural character, succumb

to his needs and calls (Bartoska & Subrt, 2012). Unless a common cognition is reached,

consultants may not have the same goals as the client organization (Chang et al., 2013).

Different goals dramatically increase the agency risk because as an independent agent the

consultant will work toward their own goals rather than those of the client (Chang et al., 2013).

ERP implementation success is heavily dependent on the effectiveness of implementation teams

in performing interdependent and concurrent tasks and communicating and collaborating both

within and between the teams (Hoch & Dulebohn, 2013). Consultants take on the role of

supporting an organization and helping it view the undertaking as a major organizational change

process, which could ultimately lead to ERP implementation failure (Schniederjans & Yadav,

2013). As such, trust between the consultant and the organization is vital to the success of the

project (Schniederjans & Yadav, 2013).

Discussion of temporary workers. One area where there is a growing trend in the use

of temporary workers, is ERP implementation. Chang et al. (2013) examined the propositions of

control mechanisms in place over individual consultants by both providers of ERP expertise and

client organizations to ensure the ERP implementation best met the clients' business needs.

Results indicated behavioral control mechanisms, such as standard practices/methods and

knowledge management systems, were the major mechanisms implemented for enhancing the

coordination among ERP consultants by provider firms (Chang et al., 2013). Boyce, Ryan, Imus,

and Morgeson (2007) have shown that many of the components of general stigmatization models

are applicable to temporary workers. They indicated both greater potential intractability of this

stigmatization because of the structures of organizations but also greater potential managerial

influence on this type of stigmatization than on other stigmas less explicitly connected to the work setting (Boyce et al., 2007).

Discussion of group theory. When individuals are alone, they tend to behave differently than when they are in groups (Vilanova, Beria, Costa, & Koller, 2017). Le Bon argues that when individuals are submerged in a mass, they lose their conscious personality, and are unified by the adoption of a group mind. As this mind is primitive, crowd behavior is unreasoning, emotional, fickle, and generically destructive (Reicher, 1996). Additionally, any emotion in the crowd will be contagious and spread without check from person to person (Reicher, 1996). Deindividuation is when an individual acts as a part of a group, and does not see themselves as an individual (Vilanova et al., 2017). They do not feel unique in relation to others, causing a propensity to reduce inner restraints, and thus facilitate the elicitation of suppressed behaviors (Vilanova et al., 2017). Festinger coined the term deindividuation to refer to the situation in which individuals act as if they were "submerged in the group" (Mann, Newton, & Innes, 1982) Current research suggests that the study of deindividuation not only may be supplemented by integration with other theories but also may contribute to essential social issues, such as the reduction of prejudice and public disorder and the enhanced construction of social identity behaviors (Vilanova et al., 2017).

Discussion of small group development. In 1965, Bruce Tuckman introduced the model of small group development. This model contains the four stages of forming, storming, norming, and performing (Bonebright, 2010). Each stage is characterized by a predictable set of themes, tasks, and behaviors (Bonebright, 2010). In the forming stage, team members test behavioral and task boundaries, as well as establish relationships (Bonebright, 2010). The storming stage of small group development is characterized by lack of unity, clarity, and

security. Interpersonal conflicts arise between team members as they seek to retain their

individuality and resist the formation of a group (Bonebright, 2010). Individuals can easily get

stuck in this phase without clear communication of task and behavioral expectations and

boundaries (Bonebright, 2010). As the individual accepts the change, moving through the

acceptance phase in the cycle of change, they enter into the norming stage (Bonebright, 2010).

This stage of small group development is characterized by the sharing of ideas and the discovery

of effective ways of working as a team (Bonebright, 2010). Finally, the team has entered into the

performing stage of small group development (Bonebright, 2010). This stage is characterized by

supportive and energized team task performance.
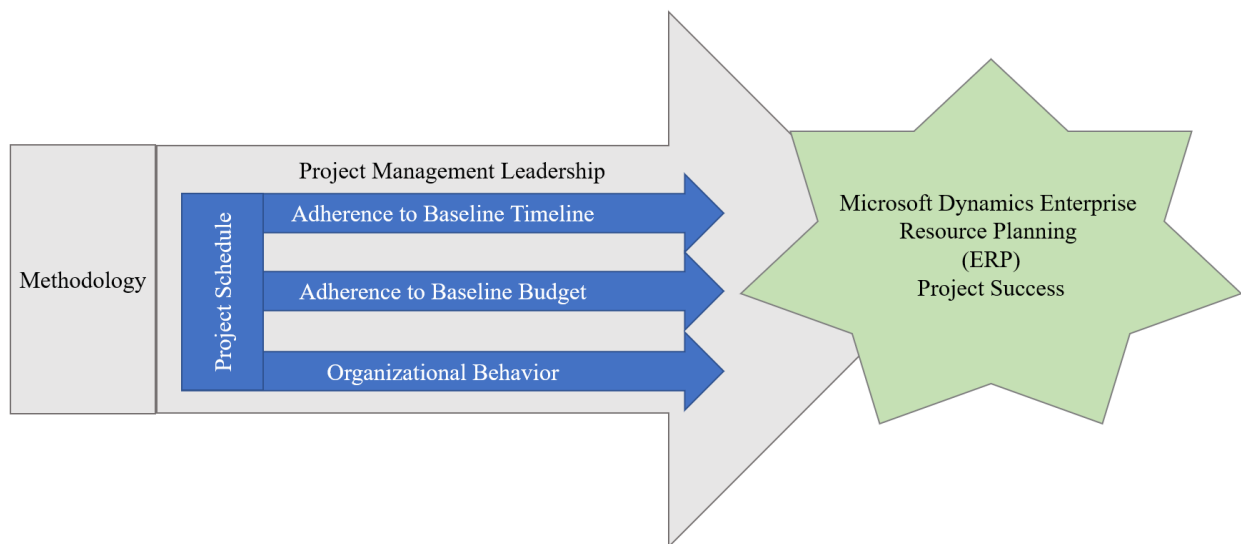
Figure 1. Relationships between concepts.

Discussion of relationships between concepts. The lowest level of the WBS, known as

the work package, provides the basis for managing the project's activities, resources, costs,

duration, and deliverables (Elsye et al., 2018). Project managers must ensure the alignment of

the work packages represent a realistic approach and timeline to deliver the project (Elsye et al.,

2018). Additionally, there are several variables that affect the project's final success or failure.

As ERP implementation projects require pulling together resources across the organization, as

well as experts in implementing the ERP system, these teams will go through the phases of

Tuckman's model for small group development (Bonebright, 2010). Project managers must lead

their teams through these phases in order to achieve optimal performance from the team

(Bonebright, 2010). Project managers must also be aware of the variables that can negatively

impact a resource's behavior. As group theory suggests, individuals behave differently in groups

than they do apart (Vilanova et al., 2017). Additionally, the duality of temporary workers may

result in stigmatization which creates potential for project managers to further influence them to

achieve their common goals (Boyce et al., 2007). All of these variables have been found to

affect the project's resources in their ability to deliver their work packages on time and on

budget.

Summary of the Conceptual Framework

In summary, project managers must employ interpersonal skills in order to lead project

resources to achievement of their goals (Larson & Gray, 2018). Additional variables, with

respect to organizational structure and group dynamics, affect the project resource's ability to

deliver their assigned work packages within the baseline budget and timeline (Wang et al.,

2005). It is the project's schedule that provides the project manager with the information needed

to lead the project team through the timely delivery of activities and deliverables, and therefore

to success (Elsye et al., 2018).

Assumptions, Limitations, Delimitations

Assumptions. It was assumed that the respondents provided truthful responses to the

interview questions. It was also assumed that the implementation partners followed a repeatable

methodology. Additionally, it was assumed that the implementation partner resources knew,

understood, and adhered to the implementation partner's methodology. A review of the project's

implementation methodology was performed to ensure it entails the full project lifecycle.

Limitations. There are a few limitations that were considered. First, the use of case

studies limited the population to only a few implementation partners, thus introducing the risk

that the results are localized to specific partner resources, rather than the project schedule itself.

Additionally, the limited population also presents a risk that the maturity of the partner's own

methodology may have an influence on the success or failure of the project, regardless of the

quality of the project schedule.

Delimitations. The boundaries of the study were limited to Microsoft Dynamics AX or

Dynamics 365 for Finance and Operations implementation projects. The case study interviews

were limited to the project managers from the implementation partner. The study included both

successful and unsuccessful cases provided by the implementation partners. Finally, the

implementation size of each case ranged from 5,000 hours to 50,000 hours of consulting effort.

Significance of the Study

ERP implementation projects experience many project management issues during the

execution phase of the project, such as maintaining clear communication among project

participants, poor team cohesiveness, and poor consultant participation (Chen, Law, & Yang,

2009). In addition, unrealistic cost estimates and lack of objective benchmarks can contribute to

escalating costs of ERP implementation projects (Chen et al., 2009). While many studies exist

with regards to ERP implementation success and failure, there are few related to ERP project

management processes (Chen et al., 2009). As such, findings from this study will help fill gaps

in the current body of literature with regards to ERP implementations, and more specifically

Microsoft ERP implementations, their success factors, estimating processes, and project control

mechanisms. Additionally, as ERP implementation projects results in an actor-centered behavior, based on the assumption that control is not external to the system but internal, it is imperative governance systems are put in place to help project managers to become aware of politically-motivated behavior of project members, identify hidden agendas in different project phases, and to apply systematic structured approaches to these behavioral issues (Niehaves, Klose, & Becker, 2006). As such, the results of this study can be used by Microsoft ERP implementation partners to improve their project methodologies, as well as their governance and control frameworks. Additionally, the results of this study can also be used by Microsoft ERP implementation clients to better staff implementation projects, as well as aid in their project control mechanisms, especially in multi-vendor environments.

   Implications for biblical integration. Successful ERP implementations utilize best practice processes to transform the organization into an efficient and effective source for their customers (Gargeya & Brady, 2005). As such, ERP implementation project managers act as transformational leaders, broadening and elevating the interests of their team members, generating awareness and acceptance of the purposes and mission of the group, and stirring their team to look beyond their own self-interest for the good of the group (Wang et al., 2005). Therefore, ERP implementation project managers are agents of change for their project team, and their organization. Plenert (2012), states there are two sources of change: changes that happen to us, and the changes that come from us. Starbird and Cavanagh (2011), describe the cycle of change as phases of thought, emotion, and behavior that individuals go through when confronted with change. In order to effectively manage change, a model must be put in place (Plenert, 2012). According to Starbird and Cavanagh, this model consists of the following eight steps: committing to the change, measuring the process, streamlining the work, making the work

visible, organizing the team, setting team goals, leading the transition, and sustaining

performance. God has provided Christians with a biblical model of managing changes that

happen to us, and those that come from us.

      Changes that happen to us. Unplanned change is inevitable, and ERP project managers

must be prepared to traverse its phases. These phases of the cycle of change include doubt,

disbelief, and denial; acceptance; productive participation; and confidence and anticipation

(Starbird & Cavanagh, 2011). Individuals can choose to continue through the cycle, or at any

phase, choose to resist (Starbird & Cavanagh, 2011). This resistance can be in the form of

denial, churn, or simply walking away (Starbird & Cavanagh, 2011). Keller and Alsdorf (2012),

describe how Adam and Eve used their work to accept the changes in their relationship with

God. In Genesis 1:26 (NIV) "God created mankind in our image, in our likeness, so that they

may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild

animals, and over all the creatures that move along the ground." However, Genesis 3 describe

Adam and Eve's fall, and the model God put in place for them to accept, adapt, and eventually

celebrate their new relationship with God. This begins with God's proclamation "through

painful toil you will eat food from it all the days of your life" (Genesis 3:17, NIV). No longer

will God provide "every seed-bearing plant on the face of the whole earth and every tree that has

fruit with seed in it. They will be yours for food" (Genesis 1:29, NIV). Rather, Adam and Eve

needed to work, as God did in Genesis 1, to keep the ground fertile for all the creatures that

move along the ground. As the population of the world has grown to more than 7 billion people,

Adam and Eve clearly accepted this new relationship with God, as well as their new work,

following God's model for change, leading to sustained performance.

Changes that comes from us. In order to grow, individuals and organizations must embrace, and even search for change (Plenert, 2012). Studies found project managers of most successful projects exhibit positive leadership behaviors such as model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart (Barrantes-Guevara, 2013). Throughout the creation story in Genesis, chapter 1, God created something in which, at the end of each creation, he found delight in it. With this, Keller and Alsdorf (2012) state that our work should be that it brings us joy, just as God delighted in his work. Today, in too many cases, people see work as a necessary evil, rather than a delightful way to honor God. Additionally, as Christians, our great commission is to "Go ye therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost" (Matthew 28:19, KJV). We are called to commit to bringing change into the world; measuring the process through increasing the number of Christians on the Earth; organizing teams to reach every corner of the Earth; and leading the sustained growth of Christianity across the globe.

Relationship to Field of Study

According to Liberty University (www. liberty.edu) the goal of the Project Management cognate is to "evaluate, strategize, and execute successful projects while also considering the scope of a project, time management, client relations, and quality control". This relates to the study's business problem in that scope management, schedule management, resource management, quality management, and communications management comprise the critical functions of project management which are covered in the project's work breakdown structure. The study aimed to examine the technical aspects of project management, with regards to scope, schedule, and quality management, as well as the interpersonal aspects within resource and communication management. While the project's work breakdown structure defines the who,

what, and when, the interpersonal aspects of resource and communications management can also affect the project's adherence to scope, duration, and budget. Therefore, this study aimed to tie together the business, human resource, finance, quantitative methods, and project management lessons of the Doctor of Business Administration (DBA) course and Project Management cognate, into practical business application that can be applied to companies implementing ERP systems, as well as their implementation partners.

A Review of the Professional and Academic Literature

A review of professional and academic literature was performed to further examine this study's conceptual framework. The literature review examined ERP implementations, project leadership, organizational behavior, and group theory. The ERP implementation review also included an analysis of ERP implementation success and failure factors, as well as the perfect storm of project management. The review of project leadership also included further analysis of leadership styles, leadership skills, the matrix organizational structure, and leadership without authority. The review of organizational behavior also included further analysis of temporary workers, control mechanisms, motivation, commitment, and justice perceptions. Finally, the review of group theory also included further analysis of social identity theory, Tuckman's model of small group development, and groupthink.

ERP Implementations

According to Doz and Kosonen (2010), successful organizations are ones that are able to maintain their relevance with their customers, both internal and external. As an ERP system is one that integrates end-to-end enterprise processes with its standardized data, it is an ideal solution to strategically manage and grow an organization's supply chain (Alimohamadian & Abdi, 2014). The unification of all the company's processes, organizational structures,

marketing and business strategies, and the operational platforms is crucial to achieve success, and for this reason, the most influential element of a company is its ERP system (Pohludka et al., 2018). In a recent survey of 237 ERP implementations, the top reasons for entering into an ERP implementation project were to improve business performance, position the organization for growth, and better serve the customer (Panorama, 2018). Because of their complexity, scope, high resource commitment, management and staff engagement, and high risks, management finds ERP implementations to be more complex and cumbersome than normal systems development projects (Khattak, She, Memon, Syed, Hussain, & Irfan, 2013). Although a recent survey of 237 ERP implementation projects found that 64% of the implementation projects exceeded their budget, the ERP market is still growing (Rosa et al., 2013). As such, ERP software is the largest segment within the Enterprise Application software market (Rosa et al., 2013).

Evolution of the ERP. For decades, Fortune 500 companies have been implementing ERP systems to improve data accuracy and integrity, in order to integrate in real-time with their customers and suppliers (Alimohamadian & Abdi, 2014). The development of ERP has gone through several stages: inventory control, Material Requirements Planning (MRP), MRP II, and ERP (Xue, Liang, Boulton, & Snyder, 2005). In the 1960s, companies could afford to keep lots of ''just-in-case'' inventory on hand to satisfy customer demand and still stay competitive (Umble, Umble, & Haft, 2003). Consequently, techniques of the day focused on the most efficient way to manage large volumes of inventory (Umble et al., 2003). In the 1970s, it became increasingly clear that companies could no longer afford the luxury of maintaining large quantities of inventory (Umble et al., 2003). This led to the introduction of MRP systems (Umble et al., 2003). The shift from inventory control to the development of MRP, which was

embraced by many manufacturing companies to more efficiently calculate what materials were

needed, when they were needed, and in what optimal quantities (Xue et al., 2005). MRP,

originally focused on the master schedule, quickly evolved into a more sophisticated system,

which encompassed additional factors such as long-range planning, high-level resource planning,

master scheduling, rough cut capacity planning, detailed capacity planning, and shop floor

control (Xue et al., 2005). For the first time, using a master production schedule, supported by

bill of material files that identified the specific materials needed to produce each finished item, a

computer could be used to calculate gross material requirements (Umble et al., 2003). Using

accurate inventory record files, the available quantity of on-hand or scheduled-to-arrive materials

could then be used to determine net material requirements (Umble et al., 2003). In the 1980s,

companies began to take advantage of the increased power and affordability of available

technology and were able to couple the movement of inventory with the coincident financial

activity (Umble et al., 2003). MRP II systems were therefore expanded to include sales and

operations planning, a financial interface, and a simulation as part of the system (Xue et al.,

2005). MRP II systems integrated the material planning with related business processes and are

regarded as an effective planning tool for all resources of a manufacturing company (Xue et al.,

2005). Although MRP II was the logical progression for production and materials planning,

companies quickly realized that profitability and customer satisfaction should be incorporated

(Xue et al., 2005). By the early 1990s, continuing improvements in technology allowed MRP II

to be expanded to incorporate all resource planning for the entire enterprise (Umble et al., 2003).

Areas such as product design, information warehousing, materials planning, capacity planning,

communication systems, human resources, finance, and project management could now be

included in the plan (Umble et al., 2003). Hence, the term, ERP was coined (Umble et al., 2003).

ERP systems have been applied to the management of every operation of an enterprise's value

chain to minimize costs and time required to deliver products to customers (Xue et al., 2005).

Subsequently, other business functions were incorporated as the systems gradually became

mature, eventually incorporating a full range of operating and management needs into ERP

systems (Xue et al., 2005). Recently, supply chain management and customer relationship

management have been integrated into ERP systems as vendors recognized the evolving needs of

firms (Xue et al., 2005).

  Failure factors. Are the key aspects (areas) where "things must go wrong" in order for

the ERP implementation process to achieve a high level of failure (Garg & Garg, 2013). Failure

has been defined as an implementation that does not achieve a sufficient return on investment

(ROI) identified in the project approval definition (Garg & Garg, 2013). Failures can be defined

in other forms like exceeding budget, lagging behind projected schedule, and failure to match

expectations (Garg & Garg, 2013). ERP implementation projects in the early 2000s faced

challenges such as shortages of experienced project managers and consultants, and limited

vendor support capability (Ram, Corkindale, & Wu, 2013). However, despite increased

experience and capability, the changes required by ERP have often proven to be overwhelming

in many organizations, resulting in ERP project failures (Ram et al., 2013). Consultants who are

not able to demonstrate a mastery of professional communication skills, good language

capability, industrial knowledge, and business analytical skills, are not able to provide expertise

concerning project planning, ERP systems and Business Process Re-engineering (BPR) during

ERP implementation and hence cannot act as change agents and fill the knowledge gaps (Garg &

Garg, 2013). For this reason, it is imperative for organizations to study the experiences of others

and learn from their practices and influencing factors (Garg & Garg, 2014). If the team is not the

cross-functional, consisting of people who are familiar with both business functions, technology and products, the team will not be able to collaborate and contribute to BPR (Garg & Garg, 2014). In their study of 44 SAP implementations, Gargeya and Brady (2005) found 40% of failed implementations were due to poor project planning, budgeting, and scope management. Additionally, Panorama Consulting Solutions (2018) found, in their study of 237 ERP implementation projects, 64% of project budget overruns and 79% of project duration overruns were attributed to project management and planning activities. The top reasons for these budget overruns were unanticipated technical and organizational issues, unrealistic budget and timelines, and additional technology requirements (Panorama, 2018). Many ERP projects fail because the employees do not realize the needs and benefits of the project and will be resistant to change (Garg & Garg, 2013). Additionally, the users do not take ownership of the project (Garg & Garg, 2013). Tight schedule and insufficient knowledge in testing and troubleshooting architecture increases the workload of project managers and users, which results in the resistance of the user in using ERP (Garg & Garg, 2013). Blackstone, Cox, and Schleiler (2009) identified some factors that work against on-time completion of projects are the student syndrome, Parkinson's law, the impact of task convergence, planning to start date, replanning, resource dependencies, early consumption of project slack, and improper buffering. Additionally, Peci and Važan (2014) identified the main critical failure factors of an ERP implementation as:

Table 1

Critical Failure Factors

Area	Failure Factor
Poor Planning	• Project schedule too tight

- Poor top management support

- Wrong people on the project team

- Poor project management effectiveness

Change Management	• Not enough focus
	• Users resistant to change
	• Poor knowledge transfer
	• Insufficient definition of business processes
	• Poor testing

One other factor leading to ERP implementation failure stems from the customer focusing on the

ERP software and price, rather than the expertise of the implementation partner (Peci & Važan,

2014). They note, implementations are generally faster and cheaper when utilizing a vendor with

experience in both the system and industry (Peci & Važan, 2014). As there are two main

approaches to an ERP implementation, phased and "big bang," the selection of the appropriate

approach is vital, and dependent upon the organization's structure, complexity, economic issues,

strategic partnerships, time constraints, and geographical locations (Garg & Garg, 2014).

Success factors. ERP systems by themselves cannot bring improvement to the

organization, and the organization can not merely depend on the ERP to attain a sustainable

competitive advantage (Khattak et al., 2013). Most ERP implementation projects experience

failure because they fail to consider critical success factors prior, during, and after the project

(Khattak et al., 2013). Therefore, organizations must consider how the ERP is to be

implemented, taking into consideration the most important organizational factors for success,

and aligning them with the specific needs of the organization (Khattak et al., 2013). Gargeya

and Brady (2005) identified the following eleven critical ERP implementation success factors:

Table 2

Critical Success Factors

Area	Success Factor
ERP Implementations	- Team composition - Change management - Top management support - Business vision - Minimum customization - Effective communication - Project management - Testing - Monitoring and evaluation of performance - Project champion - Legacy systems

Additionally, in a study of 62 paper and journals, Dadbin, Gholami, Standage, and Hanafizadeh,

(2010) identified and ranked 60 core success factors, grouping them into seven key areas. These

areas are top management support, project management, change management, project team,

training and education, communication, and business process reengineering (Dadbin et al.,

2010). Jenko and Roblek (2016) identify competence, behavior, project team, and

communication as the primary human critical success factors. Top management support refers to

the need to have committed leadership at the top management level, as well as management's

involvement in strategic planning, issue resolution, and technical leadership (Dadbin et al.,

2010). Top management is often advised to look beyond the technical aspects of the project to

the organizational requirements for a successful implementation (Muscatello & Chen, 2008). It is

consistently identified as the most important success factor in ERP system implementations

(Muscatello & Chen, 2008). Many executives have a hard time understanding that ERP

implementations are not simply a package installation, rather a long journey of fine-tuning,

upgrading, and continual learning (Muscatello & Chen, 2008). Therefore, it may lead to a sense

of frustration and anger at the system and in some cases total abandonment (Muscatello & Chen,

2008). Project management refers to the ongoing management of the implementation plan,

including planning, allocating resources, identification of milestones and critical paths, resource

management, and the determination of measures of success (Dadbin et al., 2010). In a study of

36 ERP implementations, Ehie and Madsen (2005) concluded sound and thorough understanding

of project management principles and its application is critical ERP implementation success. In

their study of 217 ERP implementations, Ram et al. (2013) confirmed that effective project

planning, scheduling, and scope management were critical success factors for ERP

implementation success. Additionally, project schedules should clearly define the project in

terms of milestones, critical paths and a clear view of the boundary of the project (Garg & Garg,

2014). This allows companies to plan, coordinate and monitor various activities in the different

stages of implementation (Garg & Garg, 2014). Finally, scope must be defined and be limited,

and it is also important to focus on results and constant tracking of schedulers and budgets

against targets (Garg & Garg, 2014). Ultimately, the project will not be successful if the project

team is trying to hit a constantly moving target (Muscatello & Chen, 2008). To prevent scope

problems, firms need to make sure a project charter exists (Muscatello & Chen, 2008). It is

paramount to nail down the project requirements and have them documented and signed by the

senior management and users (Muscatello & Chen, 2008). Furthermore, it is essential for firms

to clearly define change control procedures and hold everyone to them (Muscatello & Chen,

2008). Change management refers to the need for the implementation team to formally prepare

the organization for the implications of the project (Dadbin et al., 2010). Unlike any other

software project, an ERP system does not merely change employees' computer screens the way

previous generations of software did; it changes the way they do their jobs and how the company

does business (Muscatello & Chen, 2008). Top management, therefore, must fully understand the

degree of the changes and supports needed for the new project and be comfortable with the fact

that the decisions their planners make will have a profound impact on the entire organization

(Muscatello & Chen, 2008). To underestimate the effort involved in change management may

result in project failure (Momoh, Roy, & Shehab, 2010). Moreover, conflict arising due to the

differing needs of stakeholders must be addressed as and when it arises, rather than in a

summative manner (Momoh et al., 2010). The congruence between ERP systems and

organizational culture is the prerequisite to successful ERP implementation (Momoh et al.,

2010). Project team refers to the need to put in place a solid, core implementation team that is

comprised of the organization's best and brightest individuals (Dadbin et al., 2010). The success

of projects is related to the knowledge, skills, abilities and experiences of the project manager as

well as the selection of the right team members (Garg & Garg, 2014). One of the biggest failures

in the implementation of an ERP system is not to understand the true significance of what you

have taken on and, therefore, not commit the right resources to the project (Momoh et al., 2010).

The ERP team should consist of the best people in the organization (Garg & Garg, 2014). The

ERP team needs to be assigned to the project on a full-time basis and possess the necessary skills

to probe for details throughout the life of the project (Dadbin et al., 2010). A project team must

be flexible and deal with the problems as they arise in the implementation process (Muscatello &

Chen, 2008). Training and education refer to the need to adequately train project resources to

perform their duties on the project as well as training the organization to utilize the ERP after go-

live (Dadbin et al., 2010). Communication refers to the need for the project to effectively

provide the proper information, in the proper format, to all levels of the organization, with

regards to the project and its outputs (Dadbin et al., 2010). As communication is critical in the

influence of behavior, the accuracy and frequency of communication is a vital factor in the final

acceptance of the solution (Dadbin et al., 2010). Business process reengineering refers to the

fundamental rethinking and radical redesign of business processes to achieve dramatic

improvements in the organization (Dadbin et al., 2010). ERP implementations must involve

process reengineering in order to align the organization with best practices and standards

(Dadbin et al., 2010). One key to a successful process redesign effort in an ERP implementation

is to examine end-to-end processes, which are vital to the success of a company (Momoh et al.,

2010). End-to-end process design enables the strengthening of process integration (Momoh et

al., 2010). According to Sun, Ni, and Lam (2015), developing Key Performance Indicators

(KPIs) for Critical Success Factors (CSFs) allows the performance of CSFs to be analyzed and

managed in different organizational contexts. As such, they have defined the following KPIs

associated with each CSF (Sun et al., 2015).

Table 3

Key Performance Indicators

CSF	KPI

Top Management Support	• The functional department heads are involved in ERP team or fully support their subordinates during implementation
	• The ERP implementation team is well balanced with business and ERP user
	• There is top management support of the change management and resources
	• The external consultant work harmonizes with the internal staff in the implementation team
	• Top management support exists in the strategic investment projects
	• Cross-department cooperation is smooth and effective
	• Clear roles and responsibilities
	• Every staff member has a career development plan
Effective Communication	• The goals and objectives for implementing a new ERP system are clear among the top and middle management
	• There are information-rich ecosystems inside the company
	• There are accountability mechanisms that monitor performance and provide system members with useful, ongoing feedback
	• Learning activities (such as adopting ISO or Six Sigma) are effective
	• An ERP quality circle is formed for promoting ERP capability and improving ERP quality in the company

	• There are well-established, open and accessible communication infrastructures inside the company
	• Most employees share the organization's vision and mission
Right Employee	• Management (CEO, COO, Directors) has ERP project knowledge or experience
	• Learning and new skills development is encouraged by management
	• The ERP project manager of the company has adequate ERP project experience
	• The implementation team can bridge the gap between the existing workflow and new ERP business practice by appropriate change management in the organization
	• Implementation is fully supported by the top management
	• System integration and stress tests with real data have been conducted successfully
	• The implementation team is responsible and supportive during the implementation period
	• Customization is limited to a certain extent (at most 30%)
	• The scope and goals are clearly identified by implementation team
Change	• Change management has been well prepared in the organization

Management	• The organization's structure and business processes are open to changes
	• Sufficient IT resources for business requirement changes
	• Key user training during implementation is effective
	• The organization is well trained to accept the changes for the best practices of specific industries from the new ERP system
Implementation Costs	• A fixed implementation cost model is vital to the ERP project
	• Financial funding is properly distributed during the different implementation phases
Project Management	• A contingency budget for over-run ERP implementation is available
	• Project management with sufficient resources and planning is well organized
Identification of Customer Needs	• External customers' requirements and internal needs are well covered in the ERP implementation

Perfect storm of project management. Project scheduling is a critical component to the success of ERP implementation projects (Ram et al., 2013). When a project timeline is too tight, a project may find itself in the perfect storm of project management. Moran and Youngdahl (2008) define the perfect storm of project management as the presence of three main concepts: Parkinson's Law, Student Syndrome, and Murphy's Law. By diving into the Theory of Constraints, Bartoska and Subrt (2012) detailed the relationship between Parkinson's Law and

Student Syndrome, and the impact the human element had upon project execution. They noted, during any human activity, work intensity will be higher at the beginning and at the end and a greater decrease in work intensity in the second third of the duration is a feature which can always be expected (Bartoska & Subrt, 2012). As such, they found it is never possible to include all variables or aspects in the decision-making process about resources and activities in the project (Bartoska & Subrt, 2012). They concluded, it may happen anytime that allocated resources in an allotted time are insufficient or, on the contrary, over allocated, as such, strict time targets diminish performance and increase project costs (Bartoska & Subrt, 2012). Smith (2010) also reviewed the impact strict timelines had on projects, specifically with regards to the Agile methodology, finding as well, the increased stress negatively impacted performance and cost. Pich et al. (2002) investigated the method of schedule creation and found that it generally excludes real-world influence factors. As a result, tasks are frequently missed, and projects run over budget and time. Gutierrez and Kouvelis (1991) also reviewed the method of developing project schedules and found that it is imperative project managers produce reasonably tight timelines, in order to produce a sustainable project work environment. Porter and Smith (1998) researched the impact front-line leaders had on the severity of problems encountered. They found that, that the severity of problems encountered during projects increase as a result of higher levels of time pressure, affective conflict among project team members (Porter & Smith, 1998). They also indicated that having more experienced managers, greater buy-in to the project schedules and detailed project schedules decrease problem severity (Porter & Smith, 1998).

Project Leadership

According to Haq (2016), leadership support has been ranked as one of the most important critical success factors in implementing an ERP system. Effective leadership

determines an organization's business survival, especially when it comes to management and

strategic change (Haq, 2016). Effective leaders foster the organization of groups, following the

process, and working towards common goals (Haq, 2016). Leadership is pivotal in a successful

ERP system implementation, and the lack of leadership support can considerably jeopardize an

ERP system implementation (Haq, 2016). Wanjagi (2013) noted, project management is no

longer viewed as a set of skills professionals possess, however, it has evolved to a discipline that

includes project leadership. Additionally, project leadership is now considered a core

competency for any project manager (Wanjagi, 2013).

     Leadership styles. There are multiple styles of leadership. The first is known as trait

theory. In this theory, leaders are born, not made, and leadership qualities and traits were

inherited among higher class people (Hernandez, 2014). The next is behavioral theory. The

behavioral theory of leadership emphasizes a leader's behaviors rather than a leader's traits and

skills, assumes leaders can be made rather than born (Hernandez, 2014). Behavioral theory also

assumes effective leaders are thought to inspire their follower with the use of proper behavior

(Hernandez, 2014). One of the most widely researched theories is contingency theory

(Hernandez, 2014). According to this theory, there is no a correct type of leadership style that

can be used for all situations, instead, the leadership style used for a particular environment

depends on the situation, and the effectiveness of a leader depends on how well a leader's traits

fit the context (Hernandez, 2014). It is assumed, however, the leader's effectiveness is

dependent on the leader-follower relationship, task structure and the power of the position

(Hernandez, 2014). Transactional leadership theory is where there is an exchange of behavior

between leadership and followers (Haq, 2016). According to this theory, people will follow

leaders when there are incentives set forth (Haq, 2016). The next theory is transformational

leadership theory. This theory states that by caring, inspiring, and leading followers towards a

common vision and mission, and fostering a relationship-based environment gets performance

and results (Haq, 2016). The final theory is servant leadership theory. This leadership theory

works towards building trust, shared service, and cooperation to achieve high performance (Haq,

2016). The outcome of servant leadership is to have followers follow out of good will and work

with gratitude versus working out of fear (Haq, 2016).

      Leadership skills. The leadership skills of project managers are often cited as a critical

success factor for projects (Barrantes-Guevara, 2013). The Project Management Institute

identifies leadership, team building, motivation, communication, influencing, decision making,

political and cultural awareness, and negotiation as core interpersonal skills required by a project

manager (*PMBOK® guide – Fifth Edition, 2013*). To drive performance and sustainable

success, organizational leaders need to use their skills to integrate and align business processes

with business strategies (Hernandez, 2014). Credibility is the foundation of leadership (Haq,

2016). Deal (2014) notes that at the heart of the success of any individual are their core skills

and traits that make them contribute to how their technical skills are conveyed. The outputs that

are produced by any individual depend on their interpersonal skills, and those skills allow

technical outputs to be conveyed (Deal, 2014). An effective leader clarifies values on how

things are done, sets an example, enlists others, searches for opportunities, experiments and takes

risks, fosters collaboration, strengthens others, recognizes self and others' contributions,

celebrates values and victories, and involves others (Haq, 2016). Studies found project managers

of most successful projects exhibit positive leadership behaviors such as model the way, inspire a

shared vision, challenge the process, enable others to act, and encourage the heart (Barrantes-

Guevara, 2013). Without these interpersonal skills, there is no way for project teams to

effectively communicate and ensure the common goals of the project outcomes are maintained (Deal, 2014).

   Matrix organization structure. Around 40% of the global economy utilizes a matrix organization structure, using project management as the primary process for producing products and services (Miterev, Mancini, & Turner, 2017). ERP project teams are a small group in which individuals work together outside of traditional hierarchical lines of authority on a temporary basis on ERP implementation projects to reach some predetermined standards such as quality, within time and budget constraints (Wang et al., 2005). Due to its complexity and scope, ERP project teams are therefore generally managed utilizing a matrix organizational structure (Wang et al., 2005). There are typically three kinds of matrix organizations: the weak matrix, in which functional managers have primary control over project resources, and the project manager simply coordinates project work; the balanced matrix, in which the functional manager and project manager share control over project resources – the project manager is responsible for what needs to get completed, and the functional manager is responsible for how it gets completed; and the strong matrix, in which the project manager has control over the project resources and the functional manager supports the project work (Larson & Gray, 2018). The type of matrix organization utilized on an ERP project depends upon the maturity of project management within the organization (Wang et al., 2005). A primary advantage of the matrix structure is that it creates lateral communication channels that are not available in the classical bureaucratic form of organization (Ford & Randolph, 1992). The primary disadvantage of the matrix organization is that creates an atmosphere of ambiguity and conflict as well as additional costs, both for the organization and the individual (Ford & Randolph, 1992). Some of the early attempts at adopting the matrix organization were not successful, as some organizations changed completely

from functional, hierarchical, line management, to a totally project-focused approach (Miterev et al., 2017). Researchers noted, in doing away with the functional hierarchy, such organizations had lost the strengths the functional hierarchy gives to the organization, and not thought how to replace them with project-based working (Miterev et al., 2017). Miterev et al. (2017) concluded it is best for the organization to retain the functional hierarchy and find ways for the functional hierarchy and project structures to work together. Additionally, Ford and Randolph (1992) observed that matrix systems evolve over time. They noted the first stage begins a traditional hierarchy (Ford & Randolph, 1992). They found, as the traditional structure becomes inadequate, it moves into a project organization, or temporary overlay, in which the original hierarchy still remains, however, project management is added to deal with new complexities (Ford & Randolph, 1992). As project management becomes a more permanent form in the organization, the organization moves into the next stage called permanent overlay (Ford & Randolph, 1992). The next stage, called the mature matrix, is where the organization has evolved to a balance of authority between the functional hierarchy and project management (Ford & Randolph, 1992). The last phase, called beyond the matrix, the organization forms a unique structure that is particular to the organization's unique needs (Ford & Randolph, 1992). Ford and Randolph note that an organization may stop evolving at any point in this process if the appropriate precipitating factors are not present.

Leading without authority. Influencing is a strategy of sharing power and relying on interpersonal skills to get others to cooperate towards common goals (*PMBOK® guide – Fifth Edition, 2013*). Leadership in a project context is different than in a direct managerial relationship (Moore, 2017). The missing element for project managers, compared to direct managers, is the documented, formal authority over their team (Moore, 2017). With the advent

of the matrix organizational structure, especially in ERP implementations, project managers are

placed in positions where they are responsible for achieving a common goal, however, do not

have complete authority over the project resources (Larson & Gray, 2018). As a result, the

project manager's effectiveness and the cohesiveness among ERP team members have become

critical success factors for ERP implementation (Wang et al., 2005). As such, project managers

must utilize interpersonal skills, specifically influencing, in order to guide project resources to

achieve their goals (Larson & Gray, 2018). Wang et al. (2005) argue that charismatic leaders

fuse each member's personal goals with the team or organizational mission. They found team

members identify at a personal level with the purposes and goals of the collective as a whole and

therefore feel more team commitment and cohesiveness, which improves subsequent

performance (Wang et al., 2005). The leader–follower relationship is reduced to the simple

exchange of a certain quality of work for an adequate price (Wang et al., 2005). It is believed

that such a cost-benefit exchange process will only lead to as expected outcomes and subordinate

performance (Wang et al., 2005). On the other hand, the transformational leader, who strongly

motivates followers to perform beyond their expectations, increases the followers' sense of the

importance and value of tasks, and stimulates members to look beyond their own interests and

direct themselves to the interests of the team, organization or larger community (Wang et al.,

2005). Wang and Guan (2018) indicated that a leader's ability to influence a subordinate is

dependent upon their level of goal orientation and power distance. They define goal orientation

as the level in which a subordinate requires direction (Wang & Guan, 2018). They note,

subordinates who tend to learn from prior experience, require less direction from leaders, and

therefore have a strong goal orientation (Wang & Guan, 2018). Power distance refers to the

subordinate's acceptance of authority (Wang & Guan, 2018). Subordinates who expect leaders

to provide a high degree of authority and control have a high power distance, whereas

subordinates who do not accept leader's direction and control demonstrate a low power distance

(Wang & Guan, 2018). A leader's understanding of their subordinate's goal orientation and

power distance enables them to build the proper communication networks required to positively

influence their subordinates to achieve their common goals (Wang & Guan, 2018).

Organizational Behavior

According to Fogg (2020), a behavior is the way in which a person responds to a

particular prompt or stimulus. We distinguish between individual and group behavior (Jenko &

Roblek, 2016). The behavior of one individual has a strong impact on the behavior of other

individuals inside a group or organization (Jenko & Roblek, 2016). A behavior is something

specific that can be done at a certain time (Fogg, 2020). Behaviors can be classified as either

good or bad (Fogg, 2020). According to the Fogg Behavior Model, a behavior occurs when

motivation, ability, and a prompt all come together (Fogg, 2020). A behavior happens when an

individual's motivation and ability are high enough to remove frustration or negative feelings

about not performing the behavior (Fogg, 2020). In other words, the easier it is for an individual

to perform the behavior, the more likely they are to behave that way, or you need serious

motivation to something difficult (Fogg, 2020). In order to understand why a behavior is not

happening, one must understand if it is a motivational issue, ability issue, or prompt issue (Fogg,

2020). Organizational behavior is an area of inquiry concerned with both sorts of influence:

work organizations on people and people on work organizations (Brief & Weiss, 2002).

Preliminary research suggests that work groups commonly have consistent or homogeneous

affective reactions, and its "group affective tone" is influenced by characteristic levels of

personality traits within groups (Brief & Weiss, 2002). ERP implementation success is heavily

dependent on the effectiveness of implementation teams in performing interdependent and

concurrent tasks and communicating and collaborating both within and between the teams (Hoch

& Dulebohn, 2013). Consultants take on the role of supporting an organization and helping it

view the undertaking as a major organizational change process, which could ultimately lead to

ERP implementation failure (Schniederjans & Yadav, 2013). As such, trust between the

consultant and the organization is vital to the success of the project (Schniederjans & Yadav,

2013).

      Temporary workers. One of the dominant trends in the labor force has been the

increase in the number of contingent or temporary employees (Liden, Wayne, Kraimer, &

Sparrowe, 2003). It is estimated that there are three million temporary employees in the United

States workforce (Liden et al., 2003). A temporary or contingent worker is defined as one who

simultaneously fulfills obligations to more than one employer through the same act or behavior

(Hardy, 1990). One of the central tasks of management is to organize human effort in the service

of the objective of the enterprise (Hardy, 1990). Because of the nature of their complex

employment structures, temporary and contingent workers have opportunities to direct their

positive and negative behaviors towards two separate entities: their client organizations and their

temporary agencies (Hardy, 1990). These two organizations have conflicting interests

(Connelly, Gallagher, & Webster, 2011). This creates psychological and behavioral conflicts for

the contingent workers, which need to be managed and controlled by both the client and

temporary agency (Connelly et al., 2011).

      Control mechanisms. The more the client relies on the consultant, the more controls are

required to ensure value is achieved (Chang et al., 2013). Greater controls via monitoring and

management interventions are acknowledged to produce better outcomes (Chang et al., 2013).

Chang et al. (2013) identified controls are selected and designed to be either formal (behavioral and outcome oriented) or informal (clan and self-oriented) and implemented by the controller (Chang et al., 2013). They note, under behavioral control, controllers explicitly define procedures to be followed in completing tasks and then evaluate the performance of the controlled by comparing actions taken to the prescribed procedures (Chang et al., 2013). They list examples of behavioral controls as job descriptions, standard practices, systems development methodologies, documentation, and phase review meetings (Chang et al., 2013). They define outcome controls as those that express desired task outputs as appropriate targets, and then those controlled determine how to best meet those targets (Chang et al., 2013). They note that outcome control mechanisms help measure the controlee's performance with respect to specified outcomes (Chang et al., 2013). They list examples of outcome controls as target implementation dates, budgets, and performance evaluation (Chang et al., 2013). They define a clan as a cohesive group with common goals, and list examples of clan controls as socialization, peer pressure, and information exchange (Chang et al., 2013). Finally, they note self-control is accomplished by setting personal goals, monitoring personal goal achievement, and rewarding oneself accordingly, potentially adding to agency risk (Chang et al., 2013).

Motivation. Motivation is an individual's desire to perform a specific task or behavior (Fogg, 2020). The three sources of motivation are personal, reward or punishment, and social (Fogg, 2020). Conflicting motivations can produce the same behavior, or produce an unwanted behavior (Fogg, 2020). If a behavior is not occurring, and the individual is capable of performing the behavior, as well as the prompt for the behavior exists, then the individual is experiencing a motivation issue (Fogg, 2020). For a worker it is convenient to relax provided there is no threat of the loss of his future reward (Bartoska & Subrt, 2012). Unless a human

being is exposed to a certain amount of stress from the loss of profit for a performed activity, he

is not motivated to suppress this for his natural behavior (Bartoska & Subrt, 2012). Wanjagi

(2013) notes that team members must be willing to complete tasks that are assigned to them, and

this can only be accomplished if the project team members are motivated. Motivation to

complete tasks that meet project parameters and expectations is dependent on project team

members' willingness to accomplish individual and collective tasks (Pomfret, 2008). Competent

leaders use intrinsic and extrinsic abilities to motivate and influence others to complete the task

on hand or focus the attention in the desired direction (Haq, 2016). Wanjagi (2013) states it can

be difficult however, to motivate team members to perform, regardless of the circumstances. As

such, project managers must possess that inherent capability to motivate others regardless of

their position (Wanjagi, 2013). Stimulating work is not enough to effectively motivate project

teams, rather, empowering team members with responsibility and then holding them accountable

for the results is a more successful approach (Pomfret, 2008). Additionally, high levels of

motivation are unsustainable (Fogg, 2020). As individual's emotions wear down each day, their

motivation eventually sags below the point in which it sustains a behavior (Fogg, 2020). Project

managers must be aware of their resource's fluctuating motivation levels, and adjust accordingly

(Fogg, 2020). Motivating towards abstraction does not yield results as well (Fogg, 2020). While

abstract motivations may be well intended, they lack the details needed to verify one's ability to

perform the behavior, thus leaving the individual confused and frustrated (Fogg, 2020).

   Commitment. Djibo, Desiderio, and Price (2010) concluded that temporary workers'

affective commitment was positively related to perceptions of instrumental and supportive

leadership. Lapalme, Simard, and Tremblay (2011) examined the influence of psychological

contract breach on the commitment and behaviors of temporary workers engaged in a multiple

agency relationship. Specifically, they aimed to measure the influence of contract breach by the

employing agency and the client organization on temporary workers' trust and affective

commitment to the respective party, and on their adoption of discretionary behaviors at the client

site (Lapalme et al., 2011). Their results suggested that contract breach by the agency and the

client was negatively related to temporary worker's affective commitment toward the respective

party (Lapalme et al., 2011). This relation was mediated by workers' trust in each organization

(Lapalme et al., 2011). Their results also indicated that only commitment toward the client

organization influenced the adoption of discretionary behaviors (Lapalme et al., 2011). Liden et

al. (2003) noted the fact that contingent workers work for two organizations simultaneously

makes understanding their commitment more complex than the study of permanent employee

commitment. They pose that one theoretical framework that is especially germane to the dual

commitments of contingent workers is social exchange theory, in which the main premise is that

individuals tend to form relationships with select individuals who provide valued resources, such

as information and emotional support (Liden et al., 2003). They note the tendency for

individuals to reciprocate resources and support received from another person is referred to as

the norm of reciprocity (Liden et al., 2003). Although individual differences exist in the degree

to which people feel a sense of obligation to be committed to the organization, there is a general

tendency for individuals to feel the need to repay exchange partners for support received (Liden

et al., 2003). Individuals often express their gratitude for support received from an organization

by increasing their level of commitment to the organization (Liden et al., 2003). Commitment

may be manifested in work behaviors thought to benefit the organization, and although the

relation between organizational support and commitment has been demonstrated for permanent

employees, it is not known if this association holds for agency or contingent workers (Liden et al., 2003).

Justice perceptions. As the agency provides salary and select human resource services for these the contingent work, the contingent worker forms perceptions concerning what they receive in their exchange relationships with their agencies (Liden et al., 2003). However, as Because it is not uncommon for contingents to work for consecutive months within the same client organization, they also form attitudes and perceptions of the way in which they are treated by their client organizations (Liden et al., 2003). Such attitudes and perceptions may be related to work outcomes that are salient to the client organizations (Liden et al., 2003). As such, contingent workers may develop social exchange relationships that involve becoming committed to both their agencies and their client organizations (Liden et al., 2003). Connelly et al. (2011) aimed to determine whether justice perceptions formed in one context (i.e. the agency or the client) related to work behaviors in another context (i.e. the client or the agency). They looked to examine both organizational citizenship behaviors (OCBs) and counter-productive workplace behaviors (CWBs), in order to provide a balanced perspective (Connelly et al., 2011). They also looked to understand how workers' "volition" or their attitudes towards temporary employment would affect their behaviors (Connelly et al., 2011). Their results suggested that temporary agency worker perceptions of interpersonal justice from their agencies and their client organizations "spillover" and are indeed related to their OCBs and CWBs in both contexts (Connelly et al., 2011). Furthermore, the extent to which workers voluntarily chose temporary agency employment related to agency-directed OCBs, while a preference for permanent employment related to client-directed OCBs (Connelly et al., 2011).

Group Theory

According to 19th-century semantics, crowds are endowed with characteristics of

suggestibility, femininity, immaturity, in short, irrationality, and early semantics argue, the

individual loses his/her individuality in the crowd and is, however temporarily, absorbed in a

collective entity that levels all personal characteristics and suspends his/her reasoning (Borch,

2006). According to Le Bon, the crowd is characterized by three interrelated qualities: invincible

power, contagion, and suggestibility (Borch, 2006). Invincible power refers to its control over

the individual crowd member which allows him to yield to instincts which, had he been alone, he

would perforce have kept under restraint, and as such, members of a crowd are not

psychologically responsible for their actions (Borch, 2006). Contagion contributes to the

weakening of the individuality of the crowd members, in which their conscious personality

vanishes, and succeeds to suggestibility (Borch, 2006). Le Bon himself likens this dimension to

hypnotism, where, being in the crowd the individual ceases to be governed by his or her will, and

in contrast, is paralyzed by the magnetic influence given by the crowd (Borch, 2006). Effective

groups utilize techniques, such as brainstorming, the nominal group technique, the Delphi

technique, and the stepladder technique, however, the path towards decisions at a group level can

also be affected by multiple individual, political, and social issues (Vilanova et al., 2017).

Effective group decision making relies on individuals sharing a common objective and is

characterized by a full use of members' resources, an efficient use of time, and a high-quality

outcome (Vilanova et al., 2017). Cohesion is viewed as the single strongest predictor of group

behavior (Wang et al., 2005). The definition of group cohesiveness for this study is the extent to

which group members feel a part of the group and desire to remain in the group (Wang et al.,

2005). Groups can be made more successful by strengthening their cohesion, and as such,

groups are better able to force members to comply with group positions (Wang et al., 2005).

Social identity theory. Borch (2006) noted, despite the massive focus on crowds in

19th-century social theory, it lost much of its initial fascination and distinctiveness during the

20th century. However, Stott and Drury (2017) noted, from the middle of the twentieth century,

classical crowd theory was reinvigorated and reinforced through American social psychology in

the form of social identity. They suggested, that when acting on the basis of a social identity,

psychologically we become interchangeable exemplars of the relevant social category, and

therefore can infer appropriate conduct and are able to influence behavior to the extent that such

action is consistent with the identity in question (Stott & Drury, 2017). They concluded, the

social identity approach provides a theory of collective action, which represents an

understanding of the participant's self and surrounding social relations, as well as has begun to

enrich our understanding of the very nature of the self (Stott & Drury, 2017). This means

understanding the self, or identity, not just as a reflection of social reality but also as the

psychological basis for its formation (Stott & Drury, 2017). In this approach to crowds, identity

and context are understood not as different orders of reality but as two moments in an historical

and interactive process (Stott & Drury, 2017).

Tuckman's model for small group development. Tuckman proposed a model of

developmental stages for various group settings over time, labeled testing and dependence,

intragroup conflict, development of group cohesion, and functional role relatedness (Tuckman &

Jensen, 2010). The stages of task activity were labeled orientation to task, emotional response to

task demands, open exchange of relevant interpretations, and emergence of solutions (Tuckman

& Jensen, 2010). The group structure realm focuses on the group members' behavior and the

way they relate to one another, whereas the task realm focuses on what the group accomplishes in fulfilling its assigned task (Natvig & Stark, 2016). Tuckman later summarized the correspondence between the group-structure realm and the task-activity realm into the four stages of forming, storming, norming, and performing (Tuckman & Jensen, 2010). He acknowledged, however, that this was "a conceptual statement suggested by the data presented and subject to further test" (Tuckman & Jensen, 2010). Studies have demonstrated that the use of a team charter to lay the foundation for team functioning enhanced not only the performance trajectories or tasks assigned to the team but also the process the team follows (Natvig & Stark, 2016). A team charter serves as a blueprint of how an envisioned project becomes a reality (Natvig & Stark, 2016). Researchers found the charter development process helps build consensus among group members and provides an agreed-on set of standards that lay the foundation for the team goals and how the team will function (Natvig & Stark, 2016). Disagreements about assignments of duties and resources, also known as process conflicts, represents how well groups are managing decisions about how to manage the logistical accomplishment of the task, or task strategy, and decisions about how to coordinate people in accomplishing the task (Behfar, Mannix, Peterson, & Trochim, 2011). These behaviors can result in perceived inequities and process losses, and therefore decrease group performance and member satisfaction and increase the amount of negative emotion that group members feel (Behfar et al., 2011).

Groupthink. Groupthink occurs when the "pursuit of agreement among team members becomes so dominant that it overrides any realistic appraisal of alternative courses of action" (Reaves, 2018). According to Shirey (2012), groupthink may be defined as a mode of thinking that people engage in when they are deeply involved in a cohesive group, when the members'

strivings for unanimity override their motivation to realistically appraise alternative courses of

action. In other words, the group's prevailing sentiment is to preserve group harmony rather

than explore alternative courses of action. The eight symptoms of groupthink include the illusion

of invulnerability, inherent morality of the group, collective rationalization, stereotyping out-

groups, self-censorship, shared illusion of unanimity, pressure to conform, and mindguards

(Reaves, 2018). Project teams are vulnerable to groupthink because of their temporary nature.

Project teams often have limited time to create controls to minimize stereotyping, apathy, and

mindless risk-taking (Reaves, 2018). Shirey (2012), identifies three categories of antecedents,

which may exist alone or in combination, that predispose a group to groupthink. These include

constituent group formation, organizational structural faults, and provocative situational context.

Shirey documents 3 types of subcategories of symptoms of groupthink. These include

overestimation of the group, closed mindedness, and pressures toward uniformity. In the

presence of groupthink, groups examine few alternatives, are not highly selective in gathering

data for analysis, fail to challenge assumptions, and do not look beyond the immediate

environment for answers or expert direction (Shirey, 2012). Groupthink may be prevented by

adopting a proactive approach to counter antecedents (Cleary, Lees, & Sayers, 2019). To reduce

the negative impact of high cohesion, it may be valuable to ensure group diversity by considering

attributes required when determining group membership (Cleary et al., 2019). To address

structural faults, it may be helpful to seek expert input (Cleary et al., 2019). In relation to

situational contexts, it is important to choose group members who are capable and confident in

presenting diverse views (Cleary et al., 2019). To reduce groupthink, both the conveyor and

group members have a role to play in encouraging open discussion (Cleary et al., 2019). An

effective decision-making group needs to openly listen to a person offering a different

perspective, rather than censuring them (Cleary et al., 2019).

Summary of the Literature Review

In summary, as an ERP system is one that integrates end-to-end enterprise processes with

its standardized data, it is an ideal solution to strategically manage and grow an organization's

supply chain (Alimohamadian & Abdi, 2014). For decades, Fortune 500 companies have been

implementing ERP systems to improve data accuracy and integrity, in order to integrate in real-

time with their customers and suppliers (Alimohamadian & Abdi, 2014). Despite increased

experience and capability, the changes required by ERP have often proven to be overwhelming

in many organizations, resulting in ERP project failures (Ram et al., 2013). For this reason, it is

imperative for organizations to study the experiences of others and learn from their practices and

influencing factors (Garg & Garg, 2014). In a study of 36 ERP implementations, Ehie and

Madsen (2005) concluded sound and thorough understanding of project management principles

and its application is critical ERP implementation success. These project management principles

include such topics as effective project leadership, control of organizational behaviors, project

scheduling, motivation, commitment, and team cohesion.

Effective project leadership. The leadership skills of project managers are often cited

as a critical success factor for projects (Barrantes-Guevara, 2013). Porter and Smith (1998)

indicated that having more experienced managers, greater buy-in to the project schedules and

detailed project schedules decrease problem severity. As such, the success of projects is related

to the knowledge, skills, abilities and experiences of the project manager as well as the selection

of the right team members (Garg & Garg, 2014). According to Haq (2016), leadership support

has been ranked as one of the most important critical success factors in implementing an ERP

system. Effective leaders foster the organization of groups, following the process, and working

towards common goals (Haq, 2016). To drive performance and sustainable success,

organizational leaders need to use their skills to integrate and align business processes with

business strategies (Hernandez, 2014). An effective leader clarifies values on how things are

done, sets an example, enlists others, searches for opportunities, experiments and takes risks,

fosters collaboration, strengthens others, recognizes self and others' contributions, celebrates

values and victories, and involves others (Haq, 2016). Studies found project managers of most

successful projects exhibit positive leadership behaviors such as model the way, inspire a shared

vision, challenge the process, enable others to act, and encourage the heart (Barrantes-Guevara,

2013). Leadership in a project context is different than in a direct managerial relationship

(Moore, 2017). The missing element for project managers, compared to direct managers, is the

documented, formal authority over their team (Moore, 2017). With the advent of the matrix

organizational structure, especially in ERP implementations, project managers are placed in

positions where they are responsible for achieving a common goal, however, do not have

complete authority over the project resources (Larson & Gray, 2018).

      Importance of behavioral control. Because of the nature of their complex employment

structures, temporary and contingent workers have opportunities to direct their positive and

negative behaviors towards two separate entities: their client organizations and their temporary

agencies (Hardy, 1990). This creates psychological and behavioral conflicts for the contingent

workers, which need to be managed and controlled by both the client and temporary agency

(Connelly et al., 2011). Project managers control resource behavior by explicitly defining

procedures to be followed in completing tasks and then evaluating the performance of the

controlled by comparing actions taken to the prescribed procedures (Chang et al., 2013). Job

descriptions, standard practices, systems development methodologies, documentation, and phase

review meetings as tools project managers employ to control resource behavior (Chang et al.,

2013).

Importance of project schedules. Project scheduling is a critical component to the

success of ERP implementation projects (Ram et al., 2013). Panorama Consulting Solutions

(2018) found, in their study of 237 ERP implementation projects, 64% of project budget

overruns and 79% of project duration overruns were attributed to project management and

planning activities. In their study of 217 ERP implementations, Ram et al. (2013) confirmed that

effective project planning, scheduling, and scope management were critical success factors for

ERP implementation success.

Importance of motivation. Stimulating work is not enough to effectively motivate

project teams, rather, empowering team members with responsibility and then holding them

accountable for the results is a more successful approach (Pomfret, 2008). Unless a human being

is exposed to a certain amount of stress from the loss of profit for a performed activity, he is not

motivated to suppress this for his natural behavior (Bartoska & Subrt, 2012). Competent leaders

use intrinsic and extrinsic abilities to motivate and influence others to complete the task on hand

or focus the attention in the desired direction (Haq, 2016).

Importance of commitment. Liden et al. (2003) noted the fact that contingent workers

work for two organizations simultaneously makes understanding their commitment more

complex than the study of permanent employee commitment. Although individual differences

exist in the degree to which people feel a sense of obligation to be committed to the organization,

there is a general tendency for individuals to feel the need to repay exchange partners for support

received (Liden et al., 2003). Their results suggested that temporary agency worker perceptions

of interpersonal justice from their agencies and their client organizations "spillover" and are

indeed related to their OCBs and CWBs in both contexts (Connelly et al., 2011).

  Importance of team cohesion. Groups can be made more successful by strengthening

their cohesion, and as such, groups are better able to force members to comply with group

positions (Wang et al., 2005). Tuckman proposed a model of developmental stages for various

group settings over time, labeled testing and dependence, intragroup conflict, development of

group cohesion, and functional role relatedness (Tuckman & Jensen, 2010). ERP

implementation success is heavily dependent on the effectiveness of implementation teams in

performing interdependent and concurrent tasks and communicating and collaborating both

within and between the teams (Hoch & Dulebohn, 2013). Groupthink occurs when the "pursuit

of agreement among team members becomes so dominant that it overrides any realistic appraisal

of alternative courses of action" (Reaves, 2018). To reduce groupthink, both the conveyor and

group members have a role to play in encouraging open discussion (Cleary et al., 2019). An

effective decision-making group needs to openly listen to a person offering a different

perspective, rather than censuring them (Cleary et al., 2019).

Transition and Summary of Section 1

  According to a study by Panorama Consulting Solutions (2018), 58 percent of ERP

projects are reported as unsuccessful. Garg and Chauhan (2015) noted, as 51 percent of ERP

implementation projects are unsuccessful, it is critical for executives to fully understand the

factors that affect the failure of their projects. Ali and Miller (2017) noted that the most common

cause of ERP implementation failures stem from poor planning, poor budgeting, and poor scope

management. Garg and Garg (2014) confirmed a positive correlation between a project's project

management principles and ERP implementation project's failure. The purpose of this

qualitative study is to add to the body of knowledge by examining the project schedules of

Microsoft Dynamics ERP implementation projects, and the effects it has on extensions to project

duration and budget overruns. This larger problem is explored through an in depth study of the

completeness of the detailed project schedules, the alignment of the detailed project schedules

with the activities and deliverables of the ERP implementation methodology, the incorporation

of the detailed project schedules into the project manager's daily project governance activities,

and its effect on project adherence to budget and timeline and the organizational behavior of

project resources. A conceptual framework was developed, describing how project managers

must employ interpersonal skills in order to lead project resources to achievement of their goals.

The conceptual framework also noted that additional variables also affect the project resource's

ability to deliver their assigned work packages within the baseline budget and timeline. The

framework concluded it is the project's schedule that provides the project manager with the

information needed to lead the project team through the timely delivery of activities and

deliverables, and therefore to success. As such, a literary review was performed examining

studies on ERP implementations, project leadership, organizational behavior, and group theory.

The ERP implementation review also included an analysis of ERP implementation success and

failure factors, as well as the perfect storm of project management. The review of project

leadership also included further analysis of leadership styles, leadership skills, the matrix

organizational structure, and leadership without authority. The review of organizational

behavior also included further analysis of temporary workers, control mechanisms, motivation,

commitment, and justice perceptions. Finally, the review of group theory also included further

analysis of social identity theory, Tuckman's model of small group development, and

groupthink. The next section builds upon this foundation and outlines the overall project for

looking at the potential impact the project schedule has on Microsoft Dynamics ERP

implementation project's adherence to schedule, adherence to budget, and resource's

organizational behavior in this study.

Section 2: The Project

Consultants who are not able to demonstrate a mastery of professional communication skills, good language capability, industrial knowledge, and business analytical skills, are not able to provide expertise concerning project planning, ERP systems and BPR during ERP implementation and hence cannot act as change agents and fill the knowledge gaps (Garg & Garg, 2013). For this reason, it is imperative for organizations to study the experiences of others and learn from their practices and influencing factors (Garg & Garg, 2014). To this end, the research focuses on one main question, and three sub-questions that are critical for identifying the relationship between a project's schedule and the resource's performance of their activities within the allotted time and budget.

This section discusses the roles of the researcher and participants, as well as the research's method and design. This is followed by a discussion of the research population, sampling, and data collection tools and techniques. Finally, it will discuss data analysis, coding techniques, as well as the reliability and validity of the research data.

Purpose Statement

The purpose of this qualitative study is to add to the body of knowledge by examining the project schedules of Microsoft Dynamics ERP implementation projects, and the effects it has on extensions to project duration and budget overruns. This larger problem is explored through an in depth study of the completeness of the detailed project schedules, the alignment of the detailed project schedules with the activities and deliverables of the ERP implementation methodology, the incorporation of the detailed project schedules into the project manager's daily project governance activities, and its effect on project adherence to budget and timeline and the organizational behavior of project resources.

Role of the Researcher

In qualitative research methods, the researcher uses targeted sampling to collect open-ended data to present personal interpretation of the findings through the use of figures and tables (Creswell, 2016). As such, researchers utilizing qualitative designs are engaged in the process of co-constructing visions of social reality with their subjects as they conduct their social inquiries (Romm, 2013). In this study, the researcher conducted and recorded interviews from a population of cases in order to elicit data depicting the correlations identified in the research questions. Additionally, the researcher evaluated risks, analyzed and processed data, and complied with the requirements and standards of the Institutional Review Board (IRB).

Participants

The participants of this study included project managers of Microsoft Dynamics ERP implementations from multiple Microsoft implementation partners. The participants were identified as having experience in both successful and unsuccessful Microsoft Dynamics ERP implementations of varying sizes. The researcher interviewed the participants remotely, utilizing Microsoft Teams. The researcher provided each participant of the study with ethical protection based upon the guidelines set forth by the IRB. This was done by gathering no personal information related to the project manager or the client, referring to the participant and the client in third person, as well as only collecting aggregate data related to each case project. Guidelines to the interview approach were distributed and agreed to by the participants prior to each interview.

Research Method and Design

According to Creswell (2016), there are three distinct components involved in the formulation of a researcher's approach to planning a study. These components are the

philosophical worldview, the research method, and its research designs (Creswell, 2016). The

philosophical worldview research approach component, also knows as a paradigm, is a set of

beliefs that guide a researcher's actions, and are comprised of a researcher's discipline,

inclinations, and experiences which guide the researcher's inclination towards utilizing the

appropriate method in their research (Creswell, 2016). Although a range of paradigms have been

identified (Lincoln & Guba, 2013;2016), paradigms that are widely recognized within social

research include the Positivist, Post Positivist, Constructivist, and Interpretivist paradigms

(McChesney & Aldridge, 2019). Positivism is often associated with the realist premise that one

true reality exists, however, it is not synonymous with realism (Gamlen & McIntyre, 2018).

Positivism is characterized by the formation of a theory, development of a hypothesis, collection

of supporting or refuting data, measuring the outcomes and comparing them to the hypothesis

(Henderson, 2011). As such, this paradigm is typically associated with the quantitative research

method, and researchers most commonly employ the experimental or survey designs. Similarly,

the Post Positivist paradigm generally refers to the thinking after Positivism and challenges the

belief that absolute truth can be found (Romm, 2013). Post Positivism extends Positivism by

including the assessment of causes that influence outcomes (Creswell, 2016). It suggests that the

social sciences are often fragmented, that knowledge is not neutral, and that all knowledge is

socially constructed (Henderson, 2011). Post Positivism is useful when a phenomenon is broad

and complex, and therefore cannot be studied outside the context in which it occurs (Dubé &

Paré, 2003). Since it relies on data, evidence, rational consideration, gathered through measures

completed by the participants, or by observations, Post Positivism is most commonly associated

with the quantitative research method, utilizing the experimental design (Creswell, 2016).

However, researchers are now finding Post Positivism also legitimizes the potential for using

mixed methods, as it also encourages the collection of data from more than one method (Henderson, 2011). Henderson (2011) notes traditional Positivist paradigms often are not capable of representing the nature and complexity of behavior, and the Post Positivist paradigm also acknowledges that fixing meaning is not a neutral act, thus a mixed method is the best approach to solve problems correlating behavior to a definitive outcome. Constructivism is a social paradigm which aims to understand the world in which the subjects live and work, rather than the cause and effect found in the Post Positivist paradigm (Romm, 2013). As such, researchers utilizing the Constructivist paradigm typically follow a qualitative research method. The final paradigm discussed is Interpretivist. According to McChesney and Aldridge (2019), while an external reality is believed to exist in Interpretivism, it is not expected that this reality can be objectively captured by scientific research; arguing the goal of Interpretivism is to "understand the complex world of lived experience from the point of view of those who live it." Thus, the knowledge arising from Interpretivism is integrally linked to the participants and the context of the research, and that the results are rich and contextually situated understandings of the participant's lived experiences (McChesney & Aldridge, 2019).   As such, Interpretivism attempts to marry the scientific approach of Positivism and Post Positivism with the social aspects of Constructivism, thus resulting in a mixed research method which uses both quantitative and qualitative research design approaches.

The second and third component of a researcher's approach are the research method and research design. As can be seen from the discussion above, as one progresses from quantitative, to qualitative, to mixed method, the complexity of research increases. As such, so does the number and complexity of the available research designs in each method. In the quantitative research method, the researcher collects, analyzes, interprets, and presents results of studies

utilizing surveys or experiments in order to make definitive correlations between observations

and results (Zyphur & Pierides, 2019). As quantitative researchers often claim their methods are

value-neutral, or 'objective', it is vital they disclose if any values are embedded into the data or

results of their study (Zyphur & Pierides, 2019). This method employs the experimental design,

and non-experimental design (Zyphur & Pierides, 2019). The core goal of the experimental

design is to determine if a specific treatment produces a specific outcome (Creswell, 2016).

Researchers do this by providing a treatment to one group, and withholding the treatment from

another (Creswell, 2016). Conversely, in the non-experimental design, the researchers study

responses by a sample of the population, and thus its core goal is to identify trends suggesting

correlation between the observations and the results (Creswell, 2016). Most non-experimental

designs are retrospective in nature and are sometimes called "ex post facto" research (Thompson

& Panacek, 2007). Because a retrospective study is examining activities that have already

occurred, manipulation of independent variables and randomization is not possible (Thompson &

Panacek, 2007). Both experimental and non-experimental designs are similar in that they both

apply statistical processes to numerical data in their results. However, they differ in that non-

experimental designs seek to identify trends through correlation, while experimental designs seek

to identify pure cause and effect (Creswell, 2016). As noted above, the qualitative research

method attempts to understand the impact their life experiences and society have on the

individual or group being studied (Creswell, 2016). This method employs the narrative design,

phenomenological design, grounded theory design, and ethnography design (Romm, 2013). In

the narrative design, the researcher tells the story of an individual's life experiences, prioritizing

an individual's experience of concrete events and shedding light on its meaning rather than

focusing on constructs, opinions, or abstractions (Carless & Douglas, 2017). The primary goal

of the narrative design is to determine the significance of the impact of lived events on an

individual, group of people, or society (Creswell, 2016). In the phenomenological design, the

researcher describes the experiences of individuals who have all lived through the same

phenomenon (Creswell, 2016). Through a structured analysis, the researcher aims to use a

descriptive form to portray the meaning, or essence of the individual's experiences (Creswell,

2016). The primary goal of phenomenology is to gain a profound understanding of commonality

of the phenomenon within a particular group (Creswell, 2016). Phenomenology differs from the

narrative design in that narrative research can focus on a single individual as well as a group or

society, and generally relates to the individual's full life experiences. Phenomenology, on the

other hand, is a study of a single event shared by a group of individuals. Additionally, narrative

research is presented as a story, usually sharing both the subject and the researcher's experiences,

while phenomenology constructs a universal meaning of the event (Creswell, 2016). In the

grounded theory design, the researcher aims to develop a theory based in participants'

experiences and perspectives of a phenomenon (Flynn & Korcuska, 2018). The grounded theory

design differs from the phenomenological design in that, while a phenomenon may be the reason

a researcher is interviewing subjects, the understanding of the impact a phenomenon had on the

group may not be the finding of the grounded theory study, as the data may lead the researcher to

another topic. The final design in the qualitative research method is the ethnography research

design. In the ethnography research design, the researcher turns stories and information

witnessed in the field, into broader statements about culture, change, difference, and human

universals (Hale, 2016). Ethnography is similar to grounded theory in that it begins without a set

of research questions and hypothesis, letting the data determine the outcome, however, it differs

in that the subjects are not brought together as a result of a phenomenon, rather it is because of

where or how they live (Hale, 2016). Additionally, the primary goal of ethnography is to understand a culture, while grounded theory and phenomenology are to understand the impact a single phenomenon had on a group of people (Hale, 2016). Mixed research methods involve the collection of mixing or integrating of both qualitative and quantitative data in a study, employing the convergent parallel design, explanatory sequential design, exploratory sequential design, and transformative design (Creswell, 2016). Mixed method research was devised as researchers believed qualitative and quantitative methods were both useful as they addressed their research questions (Johnson, Onwuegbuzie & Turner, 2007). In the convergent parallel design, researchers collect data using quantitative and qualitative methods at the same time (Kuss, Harkin, Kanjo, & Billieux, 2018). However, in the explanatory sequential design, researchers first conduct a quantitative study, then use a qualitative approach to further explain the results (Creswell, 2016). Conversely, in the exploratory sequential design, researchers first perform a qualitative study, and then use a quantitative approach to further explain the results (Creswell, 2016). Therefore, the convergent parallel design, explanatory sequential design, and the exploratory sequential design are all the same, with only the sequence in which the quantitative and qualitative methods are used to collect and analyze the data. In the transformative design, researchers use a theoretical approach based on society in order to design a study of both qualitative and quantitative data (Creswell, 2016). The transformative design can use parallel or sequential methods to collect the data, and therefore are a mix of the other mixed method designs (Creswell, 2016). This study follows the constructivism paradigm and utilized the case study design of the qualitative method to guide the gathering and analysis of the data, as well as the interpretation of the research results.

Discussion of method. In qualitative research methods, the researcher uses targeted

sampling to collect open-ended data to present personal interpretation of the findings through the

use of figures and tables (Creswell, 2016). Qualitative studies rely less on empirical results, but

using interpretations of the data, rather tries to understand the impact their life experiences and

society have on the individual or group being studied (Creswell, 2016). They focus on a single

concept or phenomenon in order to create an agenda for change or reform (Creswell, 2016). As

qualitative methods are open to researcher bias as the results are interpreted (Creswell, 2016).

Therefore, researchers also must be aware of how their backgrounds will affect their

interpretation of their subject's stories (Romm, 2013). While both qualitative and quantitative

research methods would be appropriate, the large population of Microsoft Dynamics ERP

implementations required more than 300 survey responses, as well as the flexibility to further

question the lived experiences of project manager's during the implementations, through case

studies, made the qualitative research method most appropriate for this study.

Discussion of design. A case study is an empirical inquiry that investigates a

contemporary phenomenon within its real-life context (Woodside & Wilson, 2003). In the case

study design, the researcher develops an in-depth analysis of a case, which is bounded by time

and activity, by collecting detailed information using a variety of data collection procedures

(Creswell, 2016). As such, concepts become apparent in the data, and are tagged with codes,

which are refined into categories (Creswell, 2016). The biggest drawback to this form of

research is that researchers do not need clearly specified objectives, research questions, or a

hypothesis prior to the initiation of the research project, and therefore could avoid an initial

literature review, conduct interviews, and subsequently analyze data patterns, which would

constitute the research findings (Flynn & Korcuska, 2018). The primary goal of case study

research is to seek out a deep understanding of actors, interactions, sentiments, and behaviors

occurring for a specific process through time (Woodside & Wilson, 2003).

Summary of research method and design. According to Creswell (2016), the three

distinct components involved in the formulation of a researcher's approach to planning a study

are the philosophical worldview, the research method, and its research designs (Creswell, 2016).

This study follows the constructivism paradigm and will utilize the case study design of the

qualitative method to guide the gathering and analysis of the data, as well as the interpretation of

the research results. The qualitative research method was selected due to the large population of

Microsoft Dynamics ERP implementations required more than 300 survey responses, as well as

the flexibility to further question the lived experiences of project manager's during the

implementations. Case study design was selected as the intent of this study is to seek out a deep

understanding of actors, interactions, sentiments, and behaviors occurring for a specific process

through time.

Population and Sampling

The key to qualitative research, and in particular, grounded theory, is to generate enough

data so that the patterns, concepts, categories, properties, and dimensions of the phenomena can

emerge (Thompson, 2011). As such, a four-point framework has been proposed. This

framework consists of defining the study population, selecting a sample size, devising a sample

strategy, and source the sample (Robinson, 2014).

Discussion of population. The first step in determining when enough data has been

collected to adequately identify patterns, concepts, categories, properties, and dimensions, is to

determine the sample universe, or study population (Robinson, 2014). This population

represents the totality of persons from which cases may legitimately be sampled in an interview

study (Robinson, 2014). To adequately delineate the study population, the researcher must

specify a set of inclusion and exclusion criteria (Robinson, 2014). The inclusion criteria should

specify the attributes that each case must possess to qualify for the study, while the exclusion

criteria must stipulate the attributes that disqualify a case from the study (Robinson, 2014). This

study focused on the attributes of success or failure of Microsoft Dynamics ERP implementation

projects. At the point of this study, Microsoft stated there are 600 customers with productive

Dynamics for Finance and Operations environments (www.microsoft.com). As such, the

population for this study are the 600 Microsoft Dynamics ERP implementation projects.

Discussion of sampling. The next step in the framework is to decide on a sample size

(Robinson, 2014). To do this, the researcher must take into account what is ideal and what is

practical (Robinson, 2014). Interview research that has an idiographic aim typically seeks a

sample size that is sufficiently small for individual cases to have a locatable voice within the

study, and for an intensive analysis of each case to be conducted (Robinson, 2014). One way to

achieve this is to incorporate the concept of theoretical saturation (Thompson, 2011).

Theoretical saturation occurs when no new or relevant data seems to emerge with future

interviews, the category is well developed in terms of its properties and dimensions, and the

relationships among categories are well established and validated (Thompson, 2011). In order to

gain the highest quality data, within the smallest number of interviews, it is suggested the

researcher possess experience and knowledge of the topic, as well as select experts in the

phenomenon (Thompson, 2011). As theoretical sampling is cumulative, experienced

interviewers can elicit greater amounts of usable data from expert participants, thus hastening

theoretical saturation (Thompson, 2011). For this study, the researcher was an expert in

Microsoft Dynamics ERP implementations, having led 25 implementation projects over a 12-

year time period. This study interviewed three Project Managers, reaching theoretical saturation

after 10 case projects.

       Summary of population and sampling. The key to qualitative research, and in

particular, grounded theory, is to generate enough data so that the patterns, concepts, categories,

properties, and dimensions of the phenomena can emerge (Thompson, 2011). This study was

focused on the attributes of success or failure of Microsoft Dynamics ERP implementation

projects. At the point of this study, Microsoft stated there are 600 customers with productive

Dynamics for Finance and Operations environments (www.microsoft.com). As such, the

population for this study were the 600 Microsoft Dynamics ERP implementation projects.

Interview research that has an idiographic aim typically seeks a sample size that is sufficiently

small for individual cases to have a locatable voice within the study, and for an intensive analysis

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knowledge of the topic, as well as select experts in the phenomenon (Thompson, 2011). This

study interviewed three Project Managers, reaching theoretical saturation after 10 case projects.

Data Collection

       In qualitative research, inquirers collect multiple forms of data and spend a considerable

amount of time gathering information (Creswell, 2016). In qualitative research, there are four

basic data collection types (Creswell, 2016). These types are observations, interviews,

documents, and audio and visual materials (Creswell, 2016).

       Instruments. A qualitative observation is when the researcher takes field notes on the

behavior and activities of individuals at the research site (Creswell, 2016). The advantages of

qualitative observation are that the researcher has firsthand experience with the participants, the

researcher can record information as it occurs, unusual aspects can be noticed during the

observation, and it is useful in exploring topics that may be uncomfortable for participants to

discuss (Creswell, 2016). The limitations of qualitative observations are that the researcher may

be seen as intrusive, private information may be observed that the researcher cannot report, the

quality of the data is dependent upon the researcher's observation and documentation skills, and

certain participants may present special problems in gaining rapport (Creswell, 2016). In

qualitative interviews, the researcher engages with the participants through face-to-face

interviews, telephone interviews, focus groups, or through e-mail (Creswell, 2016). These

interviews involve unstructured or semi-structured and open-ended questions that are few in

number and intended to elicit views and opinions from the participants (Creswell, 2016). The

purpose of qualitative interviews are to obtain unique information or interpretation held by the

person interviewed, to collect a numerical aggregation of the information from many persons,

and to find out about a phenomenon that the researcher was unable to observe themselves (Stake,

2010). Qualitative interviews allow the researcher to control the line of questioning and are

useful when the participants cannot be observed, and can provide historical information

(Creswell, 2016). The limitations of qualitative interviews are that it provides indirect

information, filtered through the views of the interviewees; provides information in a designated

place rather that the natural field setting; the researcher's presence may bias responses; and not

all people are equally articulate and perceptive (Creswell, 2016). Qualitative documents are

public or private documents collected by the researcher during the research process (Creswell,

2016). Qualitative documents enable the researcher to obtain the language and words of the

participants, represent data to which participants have given attention, and are written evidence

that save the researcher time in transcribing (Creswell, 2016). The limitations of qualitative

documents are that they may be hard to find, may be incomplete, or may not be authentic or

accurate (Creswell, 2016). Qualitative audio and visual materials include photographs, art

objects, video, e-mails, social media text, and any form of sound (Creswell, 2016). Qualitative

audio and visual materials may be an unobtrusive method of collecting data and provides the

participant an opportunity to directly share reality (Creswell, 2016). The limitations of

qualitative audio and visual materials are that they may be difficult to interpret, may not be

accessible publicly, and the presence of the observer may be disruptive and affect responses

(Creswell, 2016). As this study aimed to identify correlations between the project's schedule and

the project's success, the historical aspect of this study made qualitative interviews a more

appropriate form of data collection than qualitative observations.

Data collection techniques. Individual interviews were scheduled using Microsoft

Teams, and participants joined as "Guest" in order to maintain confidentiality. The interviews

contained semi-structured and open-ended questions in order to focus the participant's responses

to the areas of the study. In the course of the interviews, the researcher utilized qualitative audio

and visual materials as a form of data collection through the use of recordings of each interview.

These recordings were done utilizing the recording function during each interview within

Microsoft Teams. In order to further maintain participant's confidentiality, as well as the

confidentiality of their customers, there were no qualitative documents collected during this

research.

Data organization techniques. In this study, field notes and interview session

recordings were collected. A cataloging schema was produced once the interviews have reached

saturation. The analysis of the field notes and transcription of the recordings produced a

database of cataloged responses for data analysis. Raw field notes, transcribed recordings, and digital recording files were maintained on an external electronic memory device to further maintain confidentiality and security of the data.

      Summary of data collection. As this study aimed to identify correlations between the project's schedule and the project's success, the historical aspect of this study made qualitative interviews a more appropriate form of data collection than qualitative observations. Interviews were scheduled using Microsoft Teams, and participants joined as "Guest" in order to maintain confidentiality. The interviews contained semi-structured and open-ended questions in order to focus the participant's responses to the areas of the study. In order to further maintain participant's confidentiality, as well as the confidentiality of their customers, there were no qualitative documents collected during this research. Raw field notes, transcribed recordings, and digital recording files were maintained on an external electronic memory device to further maintain confidentiality and security of the data.

Data Analysis

      The purpose of this study was to identify the project schedule's influence on adherence to the baseline budget, adherence to the baseline timeline, and the organizational behavior of the project's resources. As such, the dependent variable of this study was the project schedule. The independent variables of this study were the adherence to baseline budget, adherence to baseline timeline, and the organizational behavior of the project resources. In expanding the organizational behavior of the project resources, other independent variables included the turnover rate of project resources, the absentee rate of project resources, and the project resource's adherence to process and methodology. Other independent variables to be collected during the interview process included the project's size, industry, and methodology. While these

other independent variables were not a part of the core independent variables of this study, they were tested to identify the extent to which they may affect the core independent variables. According to Creswell (2016), when the nature of the study, containing one dependent variable, and two or more independent variables, is to learn about the relationship between several independent variables, the appropriate statistical test is multiple regression.

Coding process. Prior to the interview, each participant was assigned a random identifier. The participant joined the interview as "Guest" and referred to each project generically. The coding of responses collected during the interview began with the random identifier, and followed, in order, by each project discussed. After each interview, responses were decomposed into groups, and the project's coding was extended to each group for traceability. Microsoft Excel was used to decompose interview responses and tally responses in each category. Once all responses were counted, JASP was used to perform multiple regression tests on the study's results. Correlations were tested, using a numerical representation of the quality of the project schedule as the dependent variable, and independent variables including a numerical representation of the adherence to budget, numerical representation of the adherence to schedule, and a numerical representation of organizational behavior of resources, based on the sub-groups identified during the interviews. Correlations were tested against all three independent variables together, individually, and in varying combinations.

Summary of data analysis. The dependent variable of this study was the project schedule. The independent variables of this study were the adherence to baseline budget, adherence to baseline timeline, and the organizational behavior of the project resources. Organizational behavior of the project resources was also expanded to include the turnover rate of project resources, the absentee rate of project resources, and the project resource's adherence

to process and methodology. Other independent variables collected during the interview process

include the project's size, industry, methodology, and complexity. While these other

independent variables were not a part of the core independent variables of this study, they were

tested to identify the extent to which they affected the core independent variables. The coding of

responses collected during the interview began with the random identifier, and followed, in

order, by each project discussed. After each interview, responses were decomposed into groups,

and the project's coding was extended to each group for traceability. Microsoft Excel and JASP

were used to tally responses by group and perform multiple regression tests on the independent

variables. Correlations were tested against all three independent variables together, individually,

and in varying combinations.

Reliability and Validity

In qualitative research, reliability describes the degree to which a measure produces the

same answer and validity is the degree to which a measure gives the correct answer (McDonald,

Schoenebeck, & Forte, 2019). When measuring human behaviors, beliefs, or interactions,

correspondence between an instrument and the construct it measures is always an approximation

(McDonald et al., 2019). As a result, social science has relied heavily on reliability, as "perfect

validity" is neither theoretically possible, nor necessarily desirable (McDonald et al., 2019).

Reliability. According to McDonald et al. (2019) inspiring to achieve reliability might

reduce sensitivity to complex concepts and nuances in data. They, in fact, argue that in any

qualitative research, rigid expectations of reliability should be scrutinized for potential

marginalization or minimization of perspectives (McDonald et al., 2019). McDonald et al.

(2019) therefore proposed three types of reliability: replicability of results across coders, stability

or consistency of a single coder's use of codes over time, and accuracy of an established coding

scheme compared with others. In this study, the researcher attempted to provide a clear path of

progression to the interpretation of the data and the presentation of the findings. Therefore, other

researchers and readers can follow the path and understand how the researcher developed his

interpretation of the experience as well as the findings.

      Validity. Validity in qualitative research does not carry the same connotations as it does

in quantitative research (Creswell, 2016). Validity is based on determining whether the findings

are accurate from the standpoint of the researcher, participant, or readers of an account

(Creswell, 2016). As such, this study implemented four strategies to assess the accuracy of

findings. The first strategy was triangulation. This study established themes based on

converging perspectives gained from the study participants. The biggest threat to this strategy

was researcher bias in the identification and formation of themes within the data (Creswell,

2016). Stake, 2010 notes bias is also a lack of subjectivity and we therefore should not be too

swayed by objective opinion. Researchers must study the situation and read the best information

in order to bring more objective and subjective interpretations (Stake, 2010). Through adequate

skepticism, researchers minimize the effect of bias on the research (Stake, 2010). As such, this

study clarified researcher bias through self-reflection as another strategy to assess the accuracy

of findings. Another threat to the validity of the study was due to the fact that randomly selected

participants do not share the same characteristics, and therefore, cannot be adequately

generalized (Creswell, 2016). Therefore, the third strategy this study utilized was the inclusion,

and presentation of discrepant information that contradicts the general perspective of the theme.

The final threat to the validity of the study was due to the time-bound characteristics of each

project, generalizations cannot be extended to future projects (Creswell, 2016). Therefore, the

fourth strategy was the use of peer debriefings. This study allowed non-participating project

managers to review the study results and ask questions about how results correlate with their

own experiences.

Summary of reliability and validity. In qualitative research, reliability describes the

degree to which a measure produces the same answer and validity is the degree to which a

measure gives the correct answer (McDonald et al., 2019). McDonald et al. (2019) therefore

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study implemented four strategies to assess the accuracy of findings. These four strategies

included triangulation, clarification of bias, the inclusion and presentation of discrepant

information, and peer debriefings.

Transition and Summary of Section 2

According to Creswell (2016), the three distinct components involved in the formulation

of a researcher's approach to planning a study are the philosophical worldview, the research

method, and its research designs (Creswell, 2016). This study followed the constructivism

paradigm and utilized the case study design of the qualitative method to guide the gathering and

analysis of the data, as well as the interpretation of the research results. The qualitative research

method was selected due to the large population of Microsoft Dynamics ERP implementations

required more than 300 survey responses, as well as the flexibility to further question the lived

experiences of project manager's during the implementations. Case study design was selected as the intent of this study was to seek out a deep understanding of actors, interactions, sentiments, and behaviors occurring for a specific process through time. This study focused on the attributes of success or failure of Microsoft Dynamics ERP implementation projects. Interview research that has an idiographic aim typically seeks a sample size that is sufficiently small for individual cases to have a locatable voice within the study, and for an intensive analysis of each case to be conducted (Robinson, 2014). In order to gain the highest quality data, within the smallest number of interviews, it is suggested the researcher poses experience and knowledge of the topic, as well as select experts in the phenomenon (Thompson, 2011). This study interviewed three Project Managers, reaching theoretical saturation after 10 case projects. In qualitative research, reliability describes the degree to which a measure produces the same answer and validity is the degree to which a measure gives the correct answer (McDonald et al., 2019). McDonald et al. (2019) therefore proposed three types of reliability: replicability of results across coders, stability or consistency of a single coder's use of codes over time, and accuracy of an established coding scheme compared with others. In this study, the researcher attempted to provide a clear path of progression to the interpretation of the data and the presentation of the findings. Validity is based on determining whether the findings are accurate from the standpoint of the researcher, participant, or readers of an account (Creswell, 2016). As such, this study implemented four strategies to assess the accuracy of findings. These four strategies included triangulation, clarification of bias, the inclusion and presentation of discrepant information, and peer debriefings. The next section will present the findings that result from the application of the methodology.

Section 3: Application to Professional Practice and Implications for Change

In this section of the study, the researcher will provide an overview of the study, present the findings, and include a discussion of professional practices. The researcher will also provide recommendations for actions and opportunities for future study. Finally, this section closes with the researcher summarizing the conclusions of the study.

Overview of the Study

The purpose of this qualitative study was to examine the effect the project schedule had on extensions to project duration and budget overruns of Microsoft Dynamics ERP implementation projects. Research finds that 51 to 58 percent of ERP projects are unsuccessful due to poor project management principles such as poor planning, poor budgeting, and poor scope management (Guay et al., 2015). This larger problem was explored through an in depth study of the completeness of the detailed project schedules, the alignment of the detailed project schedules with the activities and deliverables of the ERP implementation methodology, the incorporation of the detailed project schedules into the project manager's daily project governance activities, and its effect on project adherence to budget and timeline and the organizational behavior of project resources. Additional variables, with respect to organizational structure and group dynamics, affect the project resource's ability to deliver their assigned work packages within the baseline budget and timeline (Wang et al., 2005), and were therefore examined as well.

Participants for the study were solicited through a Microsoft ERP implementation Program Management Office (PMO) Leader network. Recommended project manager's experience was reviewed by the researcher through LinkedIn, and recruitment packages were sent to those with more than seven years' experience as Microsoft ERP implementation project

managers, and who have worked for multiple implementation partners. Recruitment packages

were sent to eight prospective project managers, five responded positively, and three were

interviewed. The first project manager had 17 years experience implementing Microsoft ERP

projects, working for four different implementation partners during that time. The second

project manager had 13 years experience implementing Microsoft ERP projects, and worked for

five different implementation partners during that time. The third project manager had seven

years experience implementing Microsoft ERP projects, and worked for four different

implementation partners during that time. Interviews were conducted over a two-week period,

and theoretical saturation occurred after 10 project cases.

Table 4

Project Cases

Project	Success	Industry	Size	Methodology
1	Yes	Oil and Gas	Large	Waterfall
2	No	Finance	Medium	Agile
3	No	Entertainment	Large	Agile
4	No	Oil and Gas	Large	Waterfall
5	Yes	Niche	Large	Waterfall
6	Yes	Equipment Rentals	Medium	Hybrid
7	Yes	Energy	Large	Waterfall
8	No	Oil and Gas	Large	Waterfall

9	No	Electronics	Small	Hybrid
10	Yes	Manufacturing	Large	Waterfall

Answers to the interview questions were captured in Excel and a coding system was developed to classify key words of each interview question and then quantify its overall impact to the project case, as well as directly to the project case's timeline and budget. After recording the results of the first 10 project cases, 100% of the project cases attributed their success factors to Team Composition, Strong Project Management, Strong Project Sponsorship, and Top Management Support. The coded results were then analyzed using JASP in order to identify correlations between the project case's project schedule, the resource's behavior, and the project case's adherence to budget and timeline. This analysis resulted in three themes. The first theme is the highest driver of success is the behavior of the team. A highly performing team is composed of capable and dedicated resources, who are knowledgeable and accepting of the implementation methodology. The second theme, the project schedule, is the highest contributor to the team's behavior and the second highest driver of project success. A detailed project schedule, encompassing dependencies and summary tasks, as well as representative of the methodology, leads to the project team's morale and adherence to the project budget. Finally, the methodology is the highest driver of adherence to the project's timeline, and therefore the third highest driver of project success. A methodology that is well established and understood leads to highly performing teams, who deliver their tasks on time.
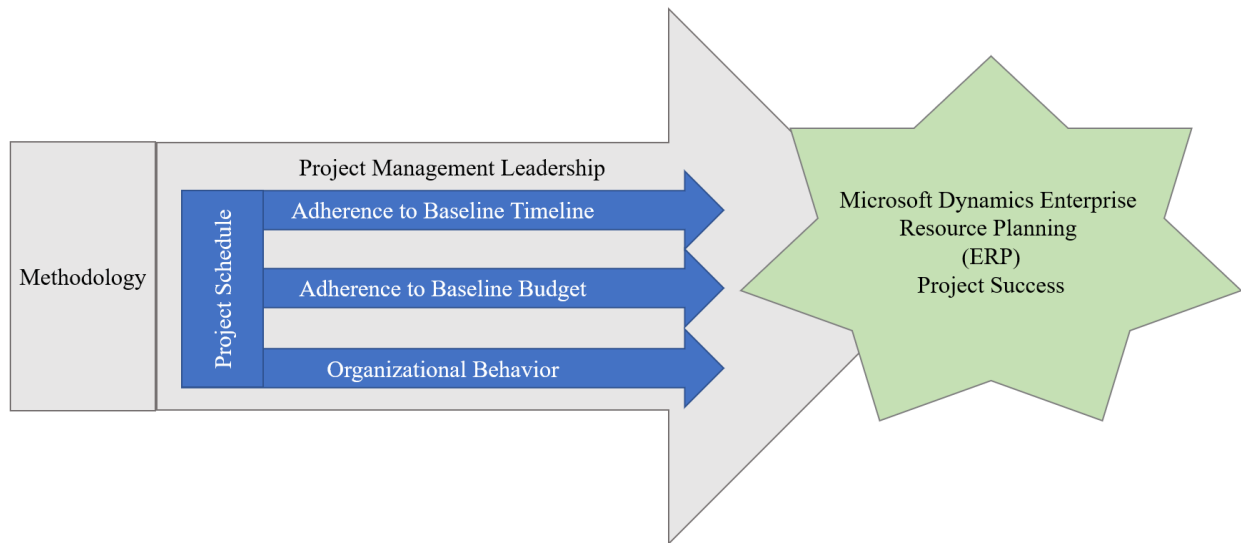
Anticipated Themes/Perceptions

Figure 2. Review of Conceptual Model

In this study, as seen with the conceptual model, the researcher anticipated various

themes as to the correlation between a project case's project schedule, resource's behavior, and

the project case's adherence to timeline and budget. The first anticipated theme had to do with

the importance of a detailed project schedule, and the impact that would have on the project

case's adherence to timeline and budget. The second anticipated theme was that the extent to

which the implementation methodology was present and followed in the project schedule would

have a high impact on the resource's successful adherence to timeline and budget. The third

anticipated theme was that resource behavior would have an impact on the project case's

adherence to timeline and budget. It was anticipated that multiple resources, from multiple

different partners, following multiple different methodologies would result in poorly performing

teams, and impact the project case's budget or timeline. Finally, it was anticipated that the

quality and adherence to a formal implementation methodology would have a high impact on the

project case's success.

With respects to the first anticipated theme, while this study finds the quality of the

project schedule is the second highest driver of project success, it has high correlations to

adherence to budget, and not timeline. Additionally, with the second anticipated theme, while

the study showed a high correlation between the quality of the project schedule and the

resource's behavior, there was minimal correlation between the methodology and project

schedule. With respects to the third anticipated theme, this study, however, found that,

regardless of organizational hierarchy, highly skilled and dedicated team's behaviors are the

highest correlation to project success. Finally, with the fourth anticipated theme, while the study

found the methodology to be the third highest driver of project success, it had a larger impact on

resource behavior and the project case's budget, than the project case's timeline. However, the

study found that the methodology was the only factor to significantly affect the project case's

timeline.

Presentation of the Findings

The presentation of the findings for this qualitative case study include an analysis of

interview results, in comparison to the research questions and literary reviews of section one.

Data collected was analyzed using the tool JASP, producing the correlations depicted in Figure

3. The analysis resulted in three themes: behavior of the team, the project schedule, and the

methodology.

Pearson Correlations

		Overall Success	Overall Timeline	Overall Budget	Behavior	Methodology	Project Schedule
Overall Success	Pearson's r	—					
	p-value	—					
Overall Timeline	Pearson's r	0.408	—				
	p-value	0.242	—				
Overall Budget	Pearson's r	1.000***	0.408	—			
	p-value	< .001	0.242	—			
Behavior	Pearson's r	0.954***	0.303	0.954***	—		
	p-value	< .001	0.395	< .001	—		
Methodology	Pearson's r	0.750*	0.663*	0.750*	0.742*	—	
	p-value	0.012	0.037	0.012	0.014	—	
Project Schedule	Pearson's r	0.843**	0.098	0.843**	0.881***	0.542	—
	p-value	0.002	0.787	0.002	< .001	0.106	—

* $p < .05$, ** $p < .01$, *** $p < .001$

Figure 3. Attribute Correlation to Project Success. JASP Team (2019). JASP (Version 0.11.1) [Computer software].

Emergent theme 1: Behavior of the team. The behavior of the team, with an r value of 0.954, is the highest driver of overall project success. ERP implementation success is heavily dependent on the effectiveness of implementation teams in performing interdependent and concurrent tasks and communicating and collaborating both within and between the teams (Hoch & Dulebohn, 2013). A highly performing team, as defined by the participants, is composed of capable and dedicated resources, who are knowledgeable and accepting of the implementation methodology. As such, the study found a high correlation between resource behavior and the project schedule (r value of 0.881), as well as the implementation methodology (r value of 0.742). All project managers noted that they had resources leave the project, however, even with long duration projects, their resource's morale remained high and the teams performed well. As such, the replacement of resources affected the budget, but not the timeline. For projects 1 and 10, the ability to identify poor performing resources early limited the replacement of the resource's impact on the budget and timeline, while projects 5, 6, and 7 only experienced budget impacts related to "burned out" resources moving off the project. As ERP implementation

projects require pulling together resources across the organization, as well as experts in implementing the ERP system, these teams will go through the phases of Tuckman's model for small group development (Bonebright, 2010). All successful project cases transgressed through Tuckman's model for small group development, reporting a decrease in team performance during the middle of the project. Project 10, however, using key performance indicators, identified a significant planning issue early, causing poor resource performance, and through effective re-planning, was able to turn the team into a well performing team quickly. On the contrary, projects 2, 4, 8, and 9 experienced low morale as a direct result of weak project management leadership and the non-existence of top leadership and sponsor support, with project 8 attributing the low morale to be the highest factor of failure of the project.

Emergent theme 2: Project schedule. The second theme, the project schedule, is the highest contributor to the team's behavior, and therefore, with an r value of 0.843, is the second highest driver of project success. The lowest level of the WBS, known as the work package, provides the basis for managing the project's activities, resources, costs, duration, and deliverables (Elsye et al., 2018). A detailed project schedule, as described by the study participants, includes dependencies and work packages, as well as represents the methodology, which leads to the project team's morale and adherence to the project budget. Project managers must ensure the alignment of the work packages represent a realistic approach and timeline to deliver the project (Elsye et al., 2018). All successful project cases started with a baselined project schedule, which balanced to the statement of work, by resource, to both budget and effort. These project schedules were maintained weekly and reported to the leadership team on a regular basis. For projects 1 and 10, key performance indicators, including schedule performance, cost performance, and earned value, were also tracked and reported weekly, as well

as used to make early decisions on the project to keep it on track. Additionally, changes to scope

were tracked in the project schedule, with project 10 also re-baselining the plan as changes to

scope and timeline were approved. On the contrary, the failure to maintain scope were the

largest drivers of failure for projects 2 and 4. As noted in the previous theme, the project

schedule, with an r value of 0.881, has a high correlation to behavior, however, it also has a high

correlation, with an r value of 0.843, to overall project budget. It does not, however, have a

significant correlation to overall project timeline (r value of 0.098).

     Emergent theme 3: Methodology. The third theme, with an r value 0.750, is the highest

driver of adherence to the project's timeline, and therefore the third highest driver of project

success. Leadership is pivotal in a successful ERP system implementation, and the lack of

leadership support can considerably jeopardize an ERP system implementation (Haq, 2016).

Project managers must lead their teams through these phases in order to achieve optimal

performance from the team (Bonebright, 2010). Effective leaders foster the organization of

groups, following the process, and working towards common goals (Haq, 2016). As described

by the participants, a formal methodology, that is understood and accepted by the team is vital

for success. All successful project cases followed a formal implementation methodology. All

successful project cases trained new resources, including client team members, on the

methodology. For project case 7, training of new team members who replaced out-going team

members were also required to attend training on the methodology prior to joining the project.

For project cases 5 and 6, this included training other partner resources on the methodology.

Additionally, all projects included strong leadership support of the methodology, including the

project manager, sponsor, and top management. On the contrary, a key component of failure for

projects 4 and 8 were that all project team members did not formally know the methodology, and

in project 4, the methodology was not supported by the project manager or top management either.

Relationship of themes/patterns to research questions. With respects to research question 1, "What are the factors leading to the success of Microsoft Dynamics ERP projects?", the participants identified the following success factors:

Table 5

Critical Success Factors

Success Factor	Attributes
Team Composition	Teams that are dedicated, knowledgeable of the industry, and knowledgeable on the methodology are key to success
Top Management Support	Strong management support and engagement is required
Sponsorship	Strong engagement, leadership, and support of the project sponsor is critical
Project Management	Strong Project Management leadership is key to success

With respects to research question 1a, "How much of an influence does the quality of a project's schedule have on the project resource's adherence to its baseline budget?", the study found the project schedule had a significant impact, with an r value of 0.843, on the overall project budget. For research question 1b, "How much of an influence does the quality of a project's schedule have on the project resource's adherence to its baseline timeline?", the study surprisingly found no significant correlation, with an r value of 0.098, between the project schedule and the overall timeline. It was, however, the project methodology which had a

significant impact, with an r value of 0.663, on the project's overall timeline. This was due more

to the methodology's correlation with resource behavior (r value of 0.742), than with the

methodology's inclusion in the project schedule (r value of 0.542). With the final research

question, "How much of an influence does the quality of a project's schedule have on the project

resource's organizational behavior?", the study found the highest correlation, with an r value of

0.881, between the project schedule and resource behavior.

      Summary of the findings. The purpose of this qualitative study was to examine the

effect the project schedule had on extensions to project duration and budget overruns of

Microsoft Dynamics ERP implementation projects. Participants for the study were solicited

through a Microsoft ERP implementation PMO Leader network. Recruitment packages were

sent to eight prospective project managers, and five responded positively. Interviews were

conducted over a two-week period, and saturation occurred after 10 project cases. After

recording the results of the first 10 project cases, 100% of the project cases attributed their

success factors to Team Composition, Strong Project Management, Strong Project Sponsorship,

and Top Management Support. The coded results were then analyzed using JASP in order to

identify correlations between the project case's project schedule, the resource's behavior, and the

project case's adherence to budget and timeline.

      This analysis resulted in three themes. The first theme, with an r value of 0.954, is the

highest driver of success is the behavior of the team. The second theme, with an r value of

0.843, is the project schedule is the highest contributor to the team's behavior, and therefore, the

second highest driver of project success. Finally, the methodology, with an r value of 0.750, is

the highest driver of adherence to the project's timeline, and therefore the third highest driver of

project success. Additionally, the project schedule, with an r value of 0.881, and the

methodology, with an r value of 0.742, are the highest drivers of resource behavior.
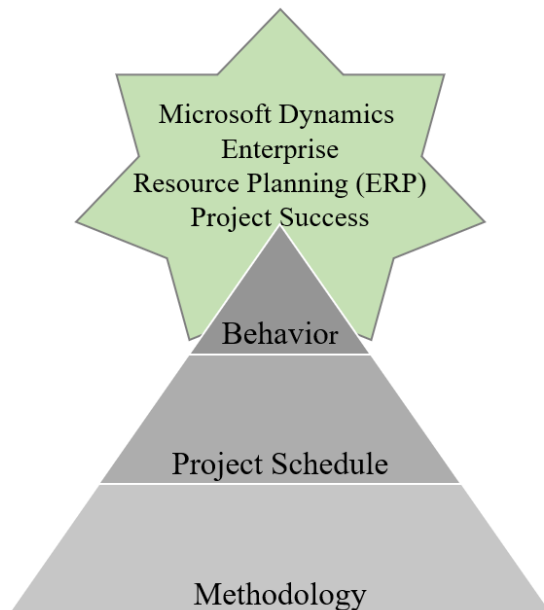

Figure 4. Summary of the findings

      If viewed as a pyramid, the methodology forms the foundation of project success, with an

overall success r value of 0.750, as it is significantly responsible for timeline success, r value of

0.663, budget success, with an r value of 0.750, and behavior, with an r value of 0.742. The

middle of the pyramid would be comprised of the project schedule, with an overall success r

value of 0.843, as it is more significantly responsible for behavior, with an r value of 0.881, and

budget, with an r value of 0.843. The top of the pyramid would be comprised of behavior, with

an overall success r value of 0.954, as it is also the highest driver of budget success, with an r

value of 0.954.

Applications to Professional Practice

      This section establishes the application of this study's findings to the professional

practice of project management in the field of Microsoft Dynamics ERP Implementation, as well

as discusses the biblical implications of the study's findings. It was expected that Microsoft

Dynamics ERP Implementation Partners can use the results of this study to improve their project

methodologies, as well as their governance and control frameworks. Additionally, the researcher

expected results of this study can also be used by Microsoft Dynamics ERP Implementation

clients to better staff implementation projects, as well as aid in their project control mechanisms,

especially in multi-vendor environments.

       Microsoft Dynamics ERP implementation partners. Consultants who are not able to

demonstrate a mastery of professional communication skills, good language capability, industrial

knowledge, and business analytical skills, are not able to provide expertise concerning project

planning, ERP systems and BPR during ERP implementation and hence cannot act as change

agents and fill the knowledge gaps (Garg & Garg, 2013). The results of this study identified the

critical success factors on a Microsoft Dynamics ERP implementation are team composition, top

management support, sponsorship, and project management. The interview responses found

teams must also be knowledgeable of the Microsoft Dynamics ERP product, the client's

industry, and the Implementation Partner's methodology in order to maintain high morale

through the project, as well as produce a solution that meets the client's expectations. This

correlation was confirmed in the analysis of success factors. As such, the Implementation

Partner must provide documentation and training to the project resources on the methodology, a

strong project manager that is supportive of the methodology and can lead the team through all

phases of the project, and strong and consistent support of the project by top management and

project sponsors.

       Microsoft Dynamics ERP implementation clients. One of the biggest failures in the

implementation of an ERP system is not to understand the true significance of what you have

taken on and, therefore, not commit the right resources to the project (Momoh et al., 2010). The

ERP team should consist of the best people in the organization (Garg & Garg, 2014). Unlike any

other software project, an ERP system does not merely change employees' computer screens the

way previous generations of software did; it changes the way they do their jobs and how the

company does business (Muscatello & Chen, 2008). Top management, therefore, must fully

understand the degree of the changes and supports needed for the new project and be

comfortable with the fact that the decisions their planners make will have a profound impact on

the entire organization (Muscatello & Chen, 2008). While this study did not include an analysis

of the client's team and leadership in the success or failure of each project case, it is imperative

that the client team also be supportive of the methodology. As such, clients should augment their

teams with experienced project managers who have lead Microsoft Dynamics ERP

implementation projects, and more specifically, utilized a similar methodology on their prior

projects. Additionally, clients need to train their project team members on the methodology and

tools utilized in the implementation project, to ensure all team members are effectively

communicating and working towards the same end goal. Finally, clients must also incorporate

their activities into the implementation partner's project plan, to ensure all dependencies are

documented, as well as key performance indicators include all activities of the project.

Biblical implications. In order to grow, individuals and organizations must embrace,

and even search for change (Plenert, 2012). Studies found project managers of most successful

projects exhibit positive leadership behaviors such as model the way, inspire a shared vision,

challenge the process, enable others to act, and encourage the heart (Barrantes-Guevara, 2013).

Throughout the creation story in Genesis, chapter 1, God created something in which, at the end

of each creation, he found delight in it. With this, Keller and Alsdorf (2012) state that our work

should be that it brings us joy, just as God delighted in his work. Unplanned change is inevitable, and ERP project managers must be prepared to traverse its phases. Individuals can choose to continue through the cycle, or at any phase, choose to resist (Starbird & Cavanagh, 2011). Genesis 3 describe Adam and Eve's fall, and the model God put in place for them to accept, adapt, and eventually celebrate their new relationship with God. Microsoft Dynamics ERP implementation partners and clients can choose to plan for change or not. As the Bible is the Christian's guide through life, so is the implementation partner's methodology. All project resources should be trained on the methodology, including its tools and key performance indicators, just as Christians are trained on the Bible, and God's ten commandments. Therefore, just as God called Christians to "Go ye therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost" (Matthew 28:19, KJV), Microsoft Dynamics ERP implementation partners are called to train all project team members on their methodology in order to achieve a successful implementation project.

Recommendations for Action

This study found, while behavior has the greatest impact on project success, the foundation for successful Microsoft Dynamics ERP implementation projects is the implementation methodology itself. This methodology must be fully understood by all team members, trained on by all project resources, utilized in the project schedule and project manager's day to day activities, and supported by the project's top management and sponsors. As such, Microsoft Dynamics ERP implementation partners must produce formal methodology documentation and training, which include the steps of the methodology, roles and responsibilities, tools used to complete each step of the methodology, and metrics used to calculate percent complete. ERP implementation projects experience many project management

issues during the execution phase of the project, such as maintaining clear communication among project participants, poor team cohesiveness, and poor consultant participation (Chen et al., 2009). This study's results also found project schedules, which document the "what", "who", and "when" of the project, should incorporate the methodology, which documents the "how" of the project, in order to fully achieve a successful project. Therefore, Microsoft Dynamics ERP implementation partners must also ensure they have a suite of tools, including a work breakdown structure, project schedule, and project reporting framework, that aligns with, and compliments the partner's methodology. These were found to improve communication on the project, reduce confusion and apprehension of the team members, and lead to high morale and highly effective teams, confirming the findings of Chen et al. (2009). Finally, Microsoft Dynamics ERP implementation clients must ensure they staff their project team with the correct resources. They must hire a project manager who is experienced successfully delivering a Microsoft Dynamics ERP implementation project, as well as select leaders from within the organization who are capable to visualize and communicate change within the organization, as well as capable of learning and following the partner's implementation methodology.

Recommendations for Further Study

This study was conducted through the lens of the implementation partner's project manager. As such, the findings represented the success factors and correlations from the implementation partner's side of the project. Additionally, while the team's behavior was identified as the highest driver of project success, behavior was generally defined as factors affecting morale, longevity, and effectiveness of the team. Therefore, there are two additional studies suggested: what are the success factors through the lens of the client project manager, as

well as what are the factors affecting morale, longevity, and team effectiveness on ERP implementation projects.

Success factors through the lens of the client project manager. Success in this study was defined as adherence to baseline timeline and budget, with proper adjustments allowed through re-baselined scope and timeline increases. One critical factor of success not studied, as it is not always in the implementation partner's purview, is the acceptance of the solution after go-live. Studies done through the lens of the client's project manager would extend beyond go-live and include the effectiveness of training and organizational change management, as it relates to the acceptance of the solution by the organization, as well as the organization's ability to attain their stated organizational goals and objectives.

Factors affecting behavior on successful ERP implementation projects. The case study design did not lend itself to an effective study of behavior on a project as its after-the-fact review made it difficult to recall and discuss everything that was going on at the time of the incident on the project. As such, a grounded theory design, involving all team members of the project would allow the researcher to derive a general, abstract theory of the interaction grounded in the views of the participants. This could further investigate the affects of group theory, commitment, motivation, and control mechanisms on the behavior of the team through specific incidents on the project.

Reflections

The study was challenging and rewarding. The topic was of interest to the researcher as he is currently working in the field and leading a team of Microsoft Dynamics ERP implementation project managers. Having the chance to perform this study allowed the researcher to gain knowledge on the topic and the interviews allowed for a deeper understanding

of the problem. The researcher was concerned about bias in the study results as he has worked in

the field many years, however, these concerns were unfounded. The participants were open in

their interview responses and the questions progressed freely through each interview. The bias

the researcher may have had regarding the topic were mitigated by asking only the interview

questions, not providing commentary or validation to any response, and asking follow-up

questions only when necessary.

Summary and Study Conclusions

The purpose of this qualitative study was to examine the effect the project schedule had

on extensions to project duration and budget overruns of Microsoft Dynamics ERP

implementation projects. Recruitment packages were sent to eight prospective project managers,

and five responded positively. Interviews were conducted over a two-week period, and

saturation occurred after 10 project cases. One hundred percent of the project cases attributed

their success factors to Team Composition, Strong Project Management, Strong Project

Sponsorship, and Top Management Support.

Further analysis of the results produced three themes. The first theme, with an r value of

0.954, is the highest driver of success is the behavior of the team. The second theme, with an r

value of 0.843, is the project schedule is the highest contributor to the team's behavior, and

therefore, the second highest driver of project success. Finally, the methodology, with an r value

of 0.750, is the highest driver of adherence to the project's timeline, and therefore the third

highest driver of project success. Additionally, the project schedule, with an r value of 0.881,

and the methodology, with an r value of 0.742, are the highest drivers of resource behavior.

If viewed as a pyramid, the methodology forms the foundation of project success, with an

overall success r value of 0.750, as it is significantly responsible for timeline success, r value of

0.663, budget success, with an r value of 0.750, and behavior, with an r value of 0.742. The middle of the pyramid would be comprised of the project schedule, with an overall success r value of 0.843, as it is more significantly responsible for behavior, with an r value of 0.881, and budget, with an r value of 0.843. The top of the pyramid would be comprised of behavior, with an overall success r value of 0.954, as it is also the highest driver of budget success, with an r value of 0.954.

This study found, while behavior has the greatest impact on project success, the foundation for successful Microsoft Dynamics ERP implementation projects is the implementation methodology itself. As such, Microsoft Dynamics ERP implementation partners must produce formal methodology documentation and training, which include the steps of the methodology, roles and responsibilities, tools used to complete each step of the methodology, and metrics used to calculate percent complete. Microsoft Dynamics ERP implementation partners must also ensure they have a suite of tools, including a work breakdown structure, project schedule, and project reporting framework, that aligns with, and compliments the partner's methodology. Finally, Microsoft Dynamics ERP implementation clients must ensure they staff their project team with the correct resources. They must hire a project manager who is experienced successfully delivering a Microsoft Dynamics ERP implementation project, as well as select leaders from within the organization who are capable to visualize and communicate change within the organization, as well as capable of learning and following the partner's implementation methodology.

This study was conducted through the lens of the implementation partner's project manager. Therefore, there are two additional studies suggested: what are the success factors

through the lens of the client project manager, as well as what are the factors affecting morale,

longevity, and team effectiveness on ERP implementation projects.

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